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THE DOCTOR IN COURT.*

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NEW ORLEANS.

I want to assure you I appreciate the compliment of being asked to speak to you tonight, and I feel that through the exchange of ideas the medical and legal profession can accomplish much. There is no doubt but what the profession of medicine and the profession of law are the two outstanding professions. These two professions can be responsible for more good than any combined professions on the face of the universe. And in spite of the fact that these are the two leading professions on the face of the earth, seldom, if ever, do they meet in joint session for the purpose of exchange of ideas, and through the exchange of ideas, benefit the community and mankind as well.

It was my good fortune last November to attend a joint meeting of the Los Angeles Medical Society and the Los Angeles Bar Association. Three of the most outstanding medical men of Los Angeles spoke, and three of the outstanding lawyers. The meeting was largely attended, over one thousand in attendance, and the result was that those who were there had a more common understanding of the rights, obligations and duties of the other, and the result was that a closer harmony was bound to result and better cooperation and a better understanding follow.

I feel that the New Orleans Bar Association and the Orleans Parish Medical Society should follow step. I feel that at least once a year these two outstanding associations should meet in joint session for the purpose of exchanging ideas and receiving suggestions and benefitting through a closer understanding and more unified cooperation.

On my return from Los Angeles I wrote the President of the Orleans Bar Association and suggested such a meeting be arranged. At the present time no such meeting has been arranged, and I am certainly going to do my best to get the present administration of the New Orleans Bar Association and the Orleans Parish Medical Society together.

The talk which has been assigned to me is "The Doctor in Court." The subject is, of course, large. The doctor goes into Court for many reasons. Ordinarily, you might just think the doctor goes to Court to testify about a certain case in which he has been called to attend a patient, but in truth and in fact he goes to Court on more occasions than most of us think. It is true that he more often goes into Court to testify about the treatment administered to a patient or the extent of disability when he is given a certain definite state of facts and is permitted to testify as an expert. But there are many reasons why a doctor goes to Court, among them being his right to practice under the Medical Practice Act, or he may come into Court to have his foreign diploma recognized or he may be sued for malpractice, or he may come into Court for

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the purpose of collecting his fees. Then, again, he may be called into Court and testify as a witness with reference to certain facts which have come into his knowledge as a result of his professional skill and certain statements which may have been made to him by a patient; these statements are privileged communications, and, as such, are inadmissible in evidence. However, there is a fine distinction frequently to be drawn between facts which are admissible in evidence and those facts which are not admissible in evidence under privileged communications. Each of these branches might constitute an entire subject.

Medical testimony was first recognized by Charles V. of Germany, and incorporated in the Caroline Code framed at Ratisbon in 1532, wherein it was ordained that the opinion of medical men, at first surgeons only, should be received in cases of death by violent or unnatural means, when suspicion existed of a criminal agency. The publication of this code encouraged the members of the medical profession to renewed activity, tending greatly to advance their sciences and the cause of justice generally. Many books soon appeared on the subject of medical jurisprudence, and the importance of medical evidence was more fully understood. (Corpus juris.)

Suffice it to say that medical testimony was the first form of expert testimony which was recognized in Courts of law, and there has been a gradual development and a gradual improvement in the taking of medical testimony until at the present time we have very definite forms and standards for the taking of this kind of testimony.

In this day and generation of experts wherein an expert is called in for almost every conceivable kind of controversy, be it of a medical nature, or be it of a business nature, or a matter requiring engineering skill, we call on the expert. Today business depends for its success on the opinions of experts, and, therefore, we have a gradual development of all kind and character of expert testimony, the first of which was expert medical testimony. This is a business era of big prosperity, of big business being done in a big way, and, therefore, the opinion and judgment of the expert is more important today than ever before.

Expert opinion and advice is sought in connection with all matters of any importance, but the only unfortunate feature of it all is that while we might accept the opinion of the expert in our business or professional affairs, we might accept the opinion of the expert engineer in an attempt to build a bridge across the Mississippi River involving millions of dollars, we might accept the expert opinion of the doctor who is called to the bedside of our loved one, or the expert opinion of the doctor with reference to the necessity of a surgical operation, we base everything we have on the opinion of experts, risking, of course, our lives and fortunes; but how different a picture is portrayed when the busy business man appears as a juror. In his home he unqualifiedly accepts the expert opinion of the doctor in whom he has confidence as final and conclusive, and on this opinion stakes his life. Tomorrow he is in Court as a juror, and he is then no longer the Dr. Jekell but becomes a Mr. Hyde. He looks with suspicion on medical testimony. He looks with suspicion on the testimony of all experts of every nature and kind, and he doubts the sincerity of the expert, believing that because the expert has been paid a fee for his expert opinion, that the testimony should be received with great caution, and the opinion is considered lightly.

Why the difference? In the home he is willing to accept the opinion of the expert as final, and in the Courtroom he looks on the expert with suspicion. Is the expert any the less expert because he has to go to Court? Is the juror any the less competent or qualified to accept the opinion of the doctor merely because he is seated in the jury box?

I am not one of those who subscribes to the theory that expert testimony deserves the suspicion which is so frequently attached

to it. We must remember that the opinion of the expert is based in part upon the experience of others and upon the assumption of the truth of matters sometimes not within his personal knowledge. We can sometimes understand that the lay mind might discredit medical testimony; they might believe that the experts are hired mercenaries; but the fact that expert testimony is commonly scoffed at by counsel, belittled by Judges, and ignored by jurymen is indeed regrettable.

More than a half century ago, Lord Chancellor Campbell, in the celebrated Tracy Peerage case, said of the sworn declarations of experts: "Hardly any weight should be given to their testimony." Mr. Justice Curtiss, in Wilkinson vs. Greeley, said that "I believe that the experience of all concerned in the administration of justice tends to the conclusion that this species of evidence is less satisfactory than any other; and it is common remark that when there is any room for a difference of opinion, experts in about equal number will generally be found testifying on either side." Mr. Justice Miller, in Middling Purifier Company vs. Christian was even more unsparing in his arraignment of the basic honesty of "opinion testimony." Said he: "My own experience, both in the local courts and in the Supreme Court of the United States, is that whenever the matter in contest involves an immense sum in value, and when the question turns mainly upon the opinions of experts, there is no difficulty in introducing any amount of them on either side." Judge Earle, in the ripe wisdom of his Court of Appeals career, professed hesitancy in giving full assent to Lord Chancellor Campbell's sweeping characterization, but added "It is generally safer to take the judgments of unskilled jurors than the opinions of hired and generally biased experts."

A judicial view so radically in conflict with the common practice of men of business and men of science everywhere except in Court naturally leads to pointed queries as to what is wrong. Is the business world topsy-turvy in seeking and relying on expert judgment, and our legal system alone wise in discrediting and rejecting it? Or is something wrong as to what is received in Court as "expert testimony," and as to who are permitted to testify as "experts" and as to the basis on which such testimony is received? If questions arise in daily life as to the nature or extent of injuries, their probable duration, the extent of their disabling consequences, the possibility or methods of cure, or any question of the adequacy of certain known events as producing cause of physical ailments, no one would think it "safer to take the judgments of unskilled jurors than the opinions" of men of standing in the medical profession, employed for the purpose of advice. "Send for the doctor; get one or get more; if several, let them talk it over together and thresh it out and give us their best judgment through report on it together, if they can," would be the unhesitant action of judge and jurors alike, in their capacities as husbands or fathers. But in Court—how different! What is the matter with our medical testimony? What can be done to give it something of the influence and authority in Court that it is unhesitatingly awarded else?

In my humble opinion, the question of medical testimony frequently resolves itself into a battle of wits, and I believe that a proper solution of the situation would be had if the Legislature passed an Act which made it compulsory on the Court in all cases in which a medical issue was involved to appoint a doctor or a medical commission, the number depending upon the discretion of the Court, to bring in a medical report which would be prima facie proof of the medical issue to be determined. Through this medium we would have experts appointed by the Court, their fees taxed as Court costs, the unsuccessful litigant would have to pay the fees, and in this manner we would certainly get unbiased testimony.

I am not willing to subscribe to the theory that the litigants should be deprived

of medical testimony in addition to that of the medical report submitted to the Court by the experts or expert appointed by the Court. I believe that the report of the experts furnished by the Court should be prima facie proof of the issue to be decided and the report should only be overruled in the case of it being manifestly erroneous, as will be indicated by a sufficient amount in both kind and quality of medical testimony to the contrary. I believe that, as a matter of practice, the only testimony that would be offered would be the medical report of the expert or experts appointed by the Court. I believe that these doctors should submit their findings to the Court and not be subjected to an examination in Court. Why should they be examined and cross-examined when the Judge has submitted to them a medical issue and they are competent to submit that report to the Court, or if the theory of a medical commission whose findings would be prima facie proof is not deemed desirable or practicable, I believe in the alternative medical testimony should be taken out of Court.

Doctors are Ambassadors of Mercy; they do more charity work than any set of individuals in the world, and time is all important, and to take up the time of a doctor in Court which is usually the best part of his day, is not only ridiculous and absurd, but is a rank injustice to him, to the medical profession and to his patients as well as his own patience.

It is not all testimony which is taken in Court. Commissioners are appointed for the purpose of taking testimony. In all admiralty suits the witnesses do not appear before the Judge. The testimony is all taken out of Court. Why? Because it is practically impossible to get these Ambassadors of Commerce, known as sailors, all together at one time for the purpose of taking their testimony. At the time a case is fixed for trial the sailor witnesses might be in all parts of the world, therefore, their testimony is taken, the case is argued, and the Judge is charged with the obligation of reading the testimony.

Now, if the convenience of sailors who are Ambassadors of Commerce, is suited, and if necessity, in addition thereto, requires that their testimony be taken out of Court, why should not medical testimony be taken out of Court, be taken in the doctor's office after office hours and read to the Court? This would certainly save time, and as a result not many doctors would object to testifying. Under the present conditions, it is frequently difficult to get doctors to come to Court. They realize that their time is valuable, and that they may be subjected to examination which they do not like, they may be ridiculed, may be embarrassed, and not many doctors care for the painful experience on the witness stand.

As I said before, I believe the Court should appoint an expert commission to decide all medical matters in connection with law-suits, or, in the alternative, medical testimony should be taken out of Court, and through this medium, I believe we would get better medical testimony, and an analysis of the medical testimony would be much better than under present conditions, as the testimony would be in writing prior to the trial of the case, and a proper analysis presented to the Court.

I could go on and describe the various kinds of doctors we meet in Court. There are all types and kinds of doctors just like there are all types and kinds of individuals, but I do not believe it would serve a useful purpose to comment on the various kinds of doctors one might expect in Court.

I said at the outset that the doctor comes to Court for more purposes than just to testify with reference to the treatment administered a patient, or the extent of disability in a case.

MEDICAL PRACTICE ACT.

He may come into Court to contest his right to practice under the Medical Practice Act, and it might be interesting to you ladies and gentlemen to know that a lower Court Judge in 1916 held that the Medical Practice was unconstitutional because it violated that provision of the Constitution

which prohibits the granting to any corporation, association or individual of any special or exclusive right, privilege or immunity. The Court was of the opinion that under the equal protection clause of the Constitution there was a discrimination, and therefore, the Act was unconstitutional, but as I said before, the Supreme Court came to the rescue and held that the Act was perfectly valid, that there was no discrimination, and that everyone had the privilege of practicing medicine upon fulfilling certain requirements. No one has the right to practice medicine but some have the privilege of practicing. There is a vast difference between a privilege and a right. The legislature has granted you the privilege.

MALPRACTICE.

Sometimes doctors are sued for malpractice. However, I want to say that it is rare and infrequent that doctors are sued for malpractice and this, of course, is a very fine compliment to the medical profession. However, in my practice, which is principally the defense of Insurance Companies, I have been called on to defend two doctors wherein one of our Companies carried the Physicians and Surgeons' Public Liability Insurance Policy, I believe in the amount of $10,000. I am not selling insurance but advise all of you to buy a Physicians and Surgeons Public Liability Insurance Policy in some good Company.

In the first case, it was contended that the doctor performing the operation used certain gauze, wadding or padding, whatever you wish to call it, and negligently sewed up the patient with one of these pieces of gauze, padding or wadding left in the patient. Gangrene set in and other complications. The error of the doctor, if it be an error of the doctor, was found at the time of her second operation. The defense I was prepared to make on behalf of the doctor was that the nurse who was an employee of the hospital was directly in charge of these paddings, and that it was her duty to count each in turn which was placed in the patient, and to see that that number were withdrawn from the patient. Suffice it to say, the doctor was a very prominent gentleman in this community, and while I was perfectly willing to try the case and felt that I could conclusively show that the liability was that of the hospital, the surgeon was anxious to compromise the case rather than expose himself to a lawsuit, and, of course, I cannot blame him for that, and the matter was settled out of Court.

The second suit was wherein a very prominent surgeon of this city was charged with wrongfully cutting off the thumb of a patient. This very prominent, able, skillful, courageous and thoroughly honest surgeon had done nothing wrong. The thumb should have been cut off, and was cut off with the knowledge and consent of the patient, and unlike the other case I had, he wanted his day in Court in order that he could be vindicated, and it was indeed a genuine pleasure to try his case for him, and I succeeded in winning his case; and I might add that he won it himself, inasmuch as he was such a good witness.

A physician, while operating on a patient, left a sponge in the abdomen, causing pain and suffering, until discovered and removed by another physician. The fact that this sponge was left in the abdomen did not constitute negligence *per se*. The evidence showed physicians and nurses used due and proper care and diligence during the operation and after, thus precluding recovery for damages against them. Roark v. Dr. Peters, 2 La. App. 448, 162 La. 111.

"In the present instance, both Courts have seen fit to ignore the well-recognized and admitted proposition that malpractice cases fall into *two* entirely *separate* and *distinct classes*. The first class of malpractice cases are those involving an alleged error of judgment or of diagnosis on the part of the defendant. The principle enunciated by the Court of Appeal and the decisions cited by it apply only to that class.

"The second class of malpractice cases consists of those where surgeons or

physicians are charged with an admitted, affirmative act of negligence, such as leaving a sponge, instrument, or other foreign substance in the body, pulling the wrong tooth, cutting off the wrong leg, or removing the wrong organ. In instances such as these, expert testimony is not necessary for a Court to determine whether or not defendant was negligent. The fact that he did leave a sponge or an instrument in the body, that he did remove the wrong organ, or that he did amputate the left leg, when the right leg was the one affected, is, in itself, and without any explanatory expert testimony, sufficient to convince any reasonable man or any Court that the defendant was guilty of negligence."

(1, 2) Counsel contends that this case falls within the second class of malpractice cases, but he overlooks the fact that it is a rule of universal application that, regardless of the allegations of the petition:

"A physician or surgeon undertaking the treatment of a patient is not required to exercise the highest degree of skill possible. He is only required to possess and exercise that degree of skill and learning ordinarily possessed and exercised by the members of his profession in good standing, practicing in similar localities, and it his duty to use reasonable care and diligence in the exercise of his skill and the application of his learning and to act according to his best judgment." 30 Cyc., p. 1570.

In the case of Cassingham vs. Berry, 67 Okl. 134, 150, p. 139 *et seq.*, the Court was requested to charge that:

"Common sense dictates that leaving the sponges in the abdominal cavity is absolutely and totally inconsistent with the exercise of ordinary care."

The Supreme Court of Oklahoma correctly comments upon this requested charge as follows:

"The doctrine advanced, in this position of the plaintiff, is too exacting for human affairs. It is tantamont to saying that, if ordinary care had been used, no mistake could have occurred. It assumes that the exercise of ordinary care would have rendered a human being infallible. And it is a matter of common knowledge, based upon every day experience, that, even in the exercise of the utmost care, all men do make mistakes. And it was not error, under the pleadings and evidence in this case, for the court to instruct the jury that, though they believed the defendant left the sponges in the body of the deceased and her death was the natural and proximate result thereof, yet if they also believed from the evidence that the defendant, in performing this operation, exercised ordinary care in keeping track of the sponges and seeing to it that they were all removed before the incision was closed, he could not be held liable for negligence. The basis and gist of this action was not the result of the operation, but negligence in the performance of it. If there was not negligence in the performance of the operation, then there could be no cause of action and there could be no recovery if there was negligence in the performance of the operation, then a recovery could be had. Whether or not the defendant exercised that degree of care in performing the operation that the law imposed upon was the paramount question and the test of the rights of the parties."

This decision fits this case like a glove and the great weight of authority supports it. A number of decisions are cited by both counsel, but, inasmuch as the testimony conclusively shows that every reasonable precaution was taken to account for all sponges used in the operation before the wound was closed, that the operation was so properly and skillfully performed that the life of both mother and child was saved, and that there is no charge in the petition of any want of skill in the performance of the operation, we do not consider it necessary to review them.

In Louisiana I notice three cases of record, that is, cases which have been decided by the Supreme Court wherein the Court condemned physicians or surgeons for mal-

practice. One is a case wherein in 1917 a judgment of $2,008.00 was granted to a patient against a doctor for an unnecessary operation; and the other is a case wherein a doctor who owned a hospital in Shreveport was held liable for negligent treatment where the nurse failed to follow his prescription and properly administer the medicine which he prescribed. This is a case in 1906. A case of a small hospital owned by a doctor and the nurse had failed to carry out his instructions. The third is Lett vs. Smith, 6 La. App. 248. In that case the Court awarded $10,000.00 for the improper use of the X-Ray.

CONFIDENTIAL COMMUNICATIONS

Confidential communications of a medical nature between a medical man and his patient cannot be divulged by the doctor without the consent of the patient even though the doctor has withdrawn from the case. And confidential communications are all the more sacred even though the patient be dead. A doctor ought not to testify to matters confided to him by his patient. A doctor will be excused from answering interrogatories when he declares on oath that he cannot answer the same without disclosing matters confided to him by his patient concerning the subject of his employment. The Court held, though, where interrogatories were addressed to an attorney to ascertain who was his client, when that relationship commenced and ended, and what money had been received, and what paid over, and to whom paid, it was held that none of these matters were privilege communications within the meaning of Civil Code, Article 2262, Shaughnessy vs. Fogg, 15 La. Ann. 330; therefore, if a doctor was asked on the witness stand "who was his patient? When did the treatment begin and when did it end? How much was he paid for the services" the Court would in all probability hold that none of these matters were confidential communications; these, however, were matters of fact which were not communicated to him by the patient at all, but were statements of fact not of a confidential nature. The doctor may be asked, however, through whose agency and in what manner or at what time he was retained. However, if the client is in Court and hears the doctor testify without objection, the Court will hold that the patient has waived the right to object to the doctor testifying with reference to matters of a confidential nature. I want to make this distinction perfectly clear that the privilege is not that of the doctor but of the patient.

We have but one case in Louisiana with reference to confidential communications, that is, the case of State vs. Lyons, decided in 1905. Some of you ladies and gentlemen might remember that Lyons killed Ward Gurley, District Attorney, and in 1905 was convicted and sentenced to be hanged. In that case the doctor who was personally friendly with the defendant, Lyons, called on Lyons while he was in the Charity Hospital recovering from a wound which was self-inflicted, and the question arose as to Lyons' sanity. The doctor was placed on the witness stand by the State. He testified that in his opinion Lyons was sane. The defendant objected to the testimony on the theory that any information the doctor had was of a confidential nature, and, therefore, not admissable in evidence. The Court overruled the objection and found that the doctor visited Lyons as a friend and not in his capacity as physician, therefore, the testimony was admitted and you will recall that Lyons was duly hanged. Strange to say, on the question of confidential communications wherein great confidence is placed in the doctor, there is only one case in this State—that of State vs. Lyons.

MEDICAL FEES.

Now, of course, ladies and gentlemen, we practice medicine and law because we love it, because we like it, because it is our chosen profession or vocation, and few, if any of us practice because we want money, but sometimes money is necessary to keep the butcher, the baker, the candle stick maker satisfied, and, therefore, we must have that coin of the realm commonly known as "Filthy Lucre." I say that few

of us practice, be it medicine or law, for the money, and this is certainly true, because when we realize how few doctors are millionaires and how few lawyers are millionaires, we are bound to realize that we can never hope to amass a large fortune as a result of fees. It is said that good lawyers work hard, live high and die poor. I don't know about the doctors living high, but I do know that they work hard, and whether or not they die poor, I leave that for you gentlemen to answer. But suffice it to say, that the greatest number of instances in which doctors go to Court on their own behalf, and I mean exclusive of such cases wherein they are called to testify as expert witneses, is in order to recover their fees, and I thought maybe you would be interested in knowing what the Supreme Court of Louisiana has granted in some cases as medical fees.

(1857) Dejol vs. Johnson, 12 La. Ann. 853. In this case there was an opposition to two accounts on the schedule.

"Plaintiff opposed two items only of the account, to-wit: The sum of $120.00 alleged to have been paid Edward Johnson for horse feed and the item of $612.55 paid Dr. A. G. Thornton for a medical bill of the deceased.

"The item for horse feed seems to be established by adequate proof.

"The large medical bill is not justified by the evidence. There is no detailed account of items. Two or three visits to the Parish of Calcasieu about forty miles from Dr. Thornton's residence in Flat Town, and constant attention to the deceased for a fortnight in his own house, where Dejol was removed before his death, together with the furnishing of medicines, are all the services specifically proved. It is true a witness states that the doctor attended the deceased for six or eight months before his death. The disease was also a loathsome one. But the opinion of this witness that the bill was a just and correct one, cannot supply the lack of data to support such an opinion. Upon a survey of the evidence we are satisfied that $300.00 would be a liberal allowance for the services as proven and the item charged as paid to Dr. Thornton must be reduced to that sum."

I wonder how many of you gentlemen would be willing to make two or three visits to the Parish of Calcasieu about forty miles distant from your home and give the patient constant attention in his own house, furnish all of the medicine in the case of a loathsome disease for the sum of $300.00. It certainly seems to me that $612.55 was a proper allowance which should have been made, and that the opinion of the witness that the bill was just and correct certainly should be taken as true. The fact that the deceased was attended for six or eight months could ordinarily be testified to by any person.

(1869) Where experts are sworn as to the value of services, and differ materially in their estimate, it is safe to accept the lowest estimate. Hart vs. Dreyfous, 42 La. Ann. 631, 7 So. 781; Succession of Duclos, 11 La. Ann. 406; Collins vs. Graves, 13 La. Ann. 96; Succession of McNamara, 48 La. Ann. 45, 18 So. 908.

(1898) In fixing the value of fees due by a succession for professional services of physician, the Court is justified in taking into consideration the value of the succession. Succession of Magner, 12 Rob. 413; Succession of Virgin, 18 La. Ann. 42; Succession of Linton, 31 La. Ann. 130; Zarnowski vs. Zeyer, 55 La. Ann. 796; Breaux vs. Franck, 30 La. Ann. 336; Succession of Haley, 50 La. Ann. 840, 24 So. 285.

(1902) A physician's bill reduced from $803.00 to $300.00 by the Trial Judge, and his ruling is sustained when the evidence showed that it was greatly disproportionate to the services rendered and the estate of the deceased against which the claim was made, did not warrant the charge. Succession of Lacoste, 108, La. 57, 32 So. 181.

(1902 Succession of Schmidt. In this case a doctor was placed on the account of

the administratrix for a $500.00 fee. The doctor filed an opposition to the account claiming $1500.00 as a fair fee. The Supreme Court, through Mr. Justice Blanchard said:

"In fixing the allowance for professional services the means of the patient—his ability to respond—is to be taken into consideration. The dead man was a sufferer from Bright's disease. He was attended by Dr. Levy for about two years prior to his death, and all his bills were paid except for the services rendered from May 1, 1900, to the time of death, October 30, 1900. The testimony shows that opponent, for the services rendered prior to May 1, charged and was paid at a higher rate than as shown on the bill forming the basis of the present opposition. It further shows that the doctor's services were arduous and his attention unremitting; that the patient was exacting in his demands; that much of the physician's time was thus taken up; that his visits were prolonged, his patient insisting upon his remaining. He was called upon at all hours of the night, and often during the day his visits to his patient necessitated the sacrafice of his office practice—giving up his office hours to the demands of the sick man. It is explained that the sufferer's condition became very much more grave from about the first of May, 1900, and this circumstance justifies, perhaps, the claim that what may be called his last illness began at that date. It is shown that the sick man suffered great pain and required special treatment for his relief. A part of this treatment was Turkish baths administered, and he required his physician to attend him at the establishment where the baths were taken. Later, when his condition got so bad he could not go to the baths outside, this treatment had to be administered by his physician at his (the sick man's) residence, and the giving of the baths occupied each time about one hour and a half to two hours. In fact it is shown that the treatment applied to the sick man was much out of the ordinary. A brother of the dead man, who lived in the same house with him, testified in corroboration of the evidence given by the doctor himself. So did three physicians of note called as witnesses on his behalf. We are of the opinion that the district judge erred in dismissing the opposition in toto and that opponent is entitled to larger compensation than the $500.00 for which he was put down on the account. We think, all things considered, his claim should be increased to $900.00."

I doubt very seriously if this doctor was paid a sufficient sum for his services which extended over a period of six months and took up most of his time. Surely, we lawyers would want more than $900.00, and I am inclined to believe the Court would give it to us.

(1856) When more than one physician is called in and attends regularly, the visits of each can not rank as a consultation, though made at the same hour so that the physicians actually meet at the patient's bedside. The difference in charge between a technical and simple visit would make it ruinous to most patients and unreasonably onerous to all, to avail themselves of the "lights" of more than one of the faculty in time of need.—Succession of Duclos, 11 La. Ann. 406.

(1858) The mere existence of an epidemic does not authorize exorbitant fees.—Collins vs. Graves, 13 La. Ann. 95.

(1883) The charges of a physician for services can not be determined solely upon the basis of skill. The amount of the patient's estate, and his consequent ability to pay, also enter into the calculation and influence it. (See Succession of Haley, 50 La. Ann. 842, 24 So. 285)—Czarnowski vs. Zeyer, 35 La. Ann. 796.

(1898) The claim that from the moment more than one physician is called in and attends regularly upon a case every visit made by every physician employed takes rank as a "consultation" can not be listened to. (Succession of Duclos, 11 La. Ann. 407,

cited.)—Succession of Haley, 50 La. Ann. 840, 24 So. 285.

(1916) A physician has the right, in the absence of a custom of his own, to charge for his visits, by day or night, at least the fee sanctioned by the custom of the community in which he lives; nor is he obliged, in so doing, to rate himself below the class to which, in his opinion, he properly belongs; and, in such case, the burden rests upon the patient, who refuses to pay, to show a better reason for such refusal than that the physician is comparatively fresh from the seats of learning. Succession of Percival, 139 La. 938, 72 So. 467.

(1844) A judgment for four hundred twenty-eight dollars for medical attendance and medicines furnished decedent in his last illness during one month, although a large one, will not be disturbed where it appears that plaintiff rendered decedent unusual and exclusive attention night and day during his last illness, remaining with him all the time, with the exception of a few days, neglecting all other business, and traveling a distance of twenty miles in going to and from his residence to that of decedent.—McManus v. Lemee, 9 Rob. 115.

(1917) Services of a practicing physician who attended decedent from November 2 to December 30 following, when he died, in treatment for pneumonia, would be reasonably and fairly compensated by an allowance of $1,000.—Succession of Pizzati, 141 La. 645, 75 So. 498. I believe Pizzati left over a million dollars. Surely this was a ridiculously small allowance.

AMOUNT OF FEES—CONSULTATION FEES.

(1918) It is a matter of common information that physicians and surgeons do not regulate their charges for professional services by any fixed standard of pecuniary value, but, to a certain extent, upon the basis of the ability of the patient to pay, and, on that basis, more frequently than otherwise, perhaps, are but poorly compensated. Where such services are shown to have been of the highest value, insofar as the life, and welfare of the patient were concerned, and the charge is neither unreasonable nor inconsiderate, as compared with the financial ability of the employer, it should be allowed by the Court.—Succession of Levitan, 143 La. 1025, 79 So. 829, 3 A. L. R. 1646.

(1922) The charges of physicians are not to be determined wholly upon the skill of the physician, nor upon the amount of services rendered; but the value of the patient's estate and his ability to pay may be taken into consideration. Young vs. Succession of VonSchoeler, 151 La. 73, 91 So. 551.

The November 23, 1929, Issue of the Journal American Medical Association under the "Medicolegal" section quotes these last two cases. The Pennsylvania Supreme Court, in the case of Pfeiffer vs. Dyer, 145 Atlantic, 284, cites only these last two Louisiana cases in awarding a doctor $3,000 for a very serious operation.

CONCLUSION.

Probably all agree that any class of individuals who are especially liable to be summoned to Court as witnesses, and particularly as expert witnesses, should have included in their education, some simple fundamental instruction on the rules of evidence, and the obligations and rights of an individual as a witness. Such instruction might either be given in a special course in pre-medical education or be included in a course on medical jurisprudence as a part of the medical curriculum. I do not doubt that in many instances physicians who have inadvertently become involved in a case, by reason of their services as a practicing physician, are qualified as experts without the knowledge that such qualification is optional with them, and that by refusing so to qualify, their examination may be limited to a mere statement of facts. An eminent radiologist, Dr. Henderson of

Touro, was on the stand in a case I was trying, wherein an employee of the Phoenix Utility Company claimed to be insane as a result of a blow on the head. The doctor was placed on the stand by me as a radiologist, and he had a perfect right to refuse to qualify as an alienist. Again, physicians as a rule understand in a general way that their relations to patients are confidential. Few, however, have any definite knowledge under what circumstances, and on what occasions, they are at liberty, or even compelled to reveal information which they possess by reason of such confidential relations. To be sure, when on the witness stand, they are advised and protected by the Court; but in their relations to family and friends, and in their relations to lawyer in conference, under these and other circumstances, the occasion is always liable to arise where they are in need of authoritative information.

It has only recently been said that the foremost national problem that calls for solution is concerned with the spirit of lawlessness that prevails. Our Courts are an institution to cope with this problem. Is it possible that this same spirit has crept into the Courts themselves, and that attorneys and witnesses alike, at times, become so zealous in the winning of decisions that they are not fully mindful of the high ideals of character which constituted the very foundations of our nation? My only purpose in raising this question is to importune the practicing physician to be mindful of his obligations to himself, as well as to the interests of his patient at law. Lawlessness in a nation of culture and power is a sign of decadence; in an individual, it is a sign of weakness. It is of greater worth to be honest than clever, even for a practicing physician in Court.

THE SAFETIES OF SURGERY.

URBAN MAES, M. D.,

NEW ORLEANS.

Lord Moynihan of Leeds, in one of the brilliant and trenchant surgical essays by which, no less than by his surgical genius, he has acquired merit, condemns with no small degree of asperity the present era of promiscuous operating by men whose principal qualification for the performance is a desire to wield the knife. Speaking of these self-appointed specialists, he points out that in surgery the hand of the beginner is heavy, and he adds that since the War the incompetent and ill-trained operator has enjoyed too free a hand and been allowed too wide a scope. Indeed, he says that he stands amazed at the ready acceptance by patients of the eager ministrations of incompetent surgeons, when it would be so easy to secure better and safer service. W. P. Mayo, in this country, echoes him, stating that we should not encourage wanton surgical assaults upon major surgical diseases by men of little training or none at all.

That a situation has arisen which warrants such comments is due to two principal factors. The first is the spectacular nature of modern surgery, the second is its seeming ease of performance, and they form a combination of specious appearances which has done the science and art of surgery a great disservice. For surgery is more than a pyrotechnic exhibition, more than an exhibition of manual dexterity. The act of operation, as Leopold long ago pointed out, is merely a carpenter's job, and there is no special credit attached to being a good carpenter; fixing the indications is what matters. Manual dexterity, as I propose to point out to you shortly, is an asset and a real one, but the less spectacular operator who has an equipment of other sorts is the man for our purposes when our own day of trial

comes. Like Lord Moynihan—I ask your pardon if I seem to quote overmuch from this distinguished British surgeon, but no writer on abdominal surgery can afford to pass by his pithy aphorisms—like Lord Moynihan, I know that there be brilliant surgeons, and with him I pray to be delivered from them in my day of need.

The safe surgeon, first of all, has a definite mental equipment. He has a theoretical and a practical knowledge of the collateral sciences allied with his art. He knows both normal and morbid anatomy. I am sure you have seen, as I have, a search for an errant appendix consume hours when it would have consumed minutes, or even seconds, if the would-be surgeon had had the knowledge of so elementary thing as the method of identifying the various parts of the intestines, which was pointed out many years ago in a brilliant paper by Monks, a paper which should be in the library and the substance of which should be in the mind of every man who attempts abdominal surgery. I am sure you have seen, as I have, the havoc wrought by other men of the same genus who were helpless in the face of the anatomical distortion brought about by such an ailment as pelvic peritonitis, let us say, and who wrought irreparable damage to the bowel wall in their endeavors to hew their way through the confusion. We in America have been derelict in our study of surgical anatomy, and we might well take a leaf from the book of our English brothers, who, in spite of their practical hospital duties, duties which are onerous from the day they enter medical school, graduate with a knowledge of this subject which could put many an experienced surgeon to shame.

The second requisite of the surgeon is a knowledge of pathology, or, to express it differently, a knowledge of perverted physiology. There are two ways of gaining this. The first is in the dissecting room and on the cadaver, and again it is an unfortunate thing that in America we are prone to be less careful in this regard than is the custom in Europe, particularly on the Continent, where a paternal government sees to it that ample autopsy material is always available. The second way to gain this knowledge is in the operating room, where, as Moynihan puts it, we may observe the inaugural signs of disease, the preliminary and initial changes which can be corrected and which differ radically from the changes found after death.

This leads us to our next point, that this knowledge is not to be gained by independent pursuit. The human body is not to be studied experimentally, but under the tutelage of men of larger experience. Here again it is unfortunate that in America the system of apprenticeship is largely disappearing. The idea today is that the possession of an M. D. degree is all that is necessary to be a surgeon, and it is an idea that may be legally correct, but that is open to grave question ethically. The profession itself is largely to blame for it. Codman and others have called attention to the dangers of our hospital systems, by which men just out of their interne years, without supervision of any sort, are put at the head of large surgical services, and are permitted, indeed required, to perform operations which would tax the skill of surgeons of many years of experience. They may develop deftness, but they will never develop judgment, and I have seen many a promising young man ruined by his very promotion to such a post.

For in the last analysis the successful surgeon will possess all the requisites I have named if he have that intangible thing which we call surgical judgment. It is very far removed indeed from manual dexterity. I am not sure that I can define it for you, but I can illustrate it. It is the thing which makes the surgeon stay his hand when he is dealing with an acute pelvic infection. It is the thing which makes him drain an abscessed appendix

or an obstructed bowel in some instances, and do radical surgery for apparently the same conditions under other circumstances. It is the thing which makes him permit a woman with a borderline contraction, to take an illustration from an allied field, to deliver herself by natural channels—and 80 per cent of them do, as C. Jeff Miller pointed out in a recent publication—and makes him refrain from the Cesarean section which he could perform so deftly. It is the thing which enables him to estimate the resistance of his patient, to comprehend what is safe for him and what lies within the zone of danger. It is the thing which makes him realize, when he takes up the knife, that a human life is in his keeping, and that the practice of his profession is a responsibility graver than that inherent in any other calling. It is the thing, in short, which comes only with the years and through the bitter school of experience.

To pass to more practical matters, obviously an accurate diagnosis is the first factor of safety in abdominal surgery. It is a matter which requires leisurely examination and detailed study, which demands the employment of all one's critical faculties, plus the judicious use of the aids which the laboratory can give us, without a slavish dependence upon them. I am fond of quoting Da Costa in this connection, to the effect that an intuitive diagnosis is a rapid method of reaching the wrong conclusion; snap surgical judgments do not make for the best interests of the patient. Diagnostic errors, in this imperfect world, are many, changes of heart and of mind may be necessary when we walk by sight after the peritoneal cavity lies open before us, but the surgeon of my choice and yours should be the man who opens it with some definite notion of what he expects to find in it. The place of exploratory incisions is very limited.

Surgery has been made safe for the patient, says Lord Moynihan, now let us make the patient safe for surgery. Quite so, in selected cases, though the average patient needs no elaborate ritual of preparation, indeed is infinitely better off if he is operated upon, as far as possible, in the midst of normal life, if he has escaped the attentions of a surgical staff with a propensity for cathartics and for schemes of dietary restriction. But the poor surgical risk is in quite another case. There is no reason in these modern days why a patient with a cardiac disorder or a cardio-renal syndrome should not be operated upon with a very minimal degree of risk. There is no reason why a diabetic should be permitted to die of acute appendicitis or gastric ulcer. There is no reason why the bad goiter patient should not be so prepared that his surgical risk is minimized. Cooperation with the internist is the key of successful preparation. Then there are such practical measures as the use of Ringer's solution prior to operation in intestinal obstruction, or the use of transfusion in patients exsanguinated by hemorrhage from peptic ulcers. I recall two such patients of my own within the past year, one almost moribund, the other only slightly less ill, in whom transfusion and the use of spinal analgesia resulted in brilliant recoveries, my own surgical performance being the smallest factor in them. The estimate of the patient and the estimate of the patient's ability to withstand our surgical assaults are considerations not to be lightly overlooked.

The proper placing of the incision and its proper size are also worthy of discussion. There is no shadow of justification for the doing of abdominal operations through buttonhole openings. Let us not cast cosmetic effects into the discard, let us pride ourselves upon our scars, but let us remember also that a large incision heals just as well and just as rapidly as a small one, and that the patient's interests are better served by it.

The McBurney incision for appendicitis is the best possible illustration of my point. If the appendix lies where it

should lie, there is nothing to be said against it, everything to be said for it. But I have already pointed out that morbid anatomy has a disconcerting way of differing from normal anatomy, and that wide variations are possible even in relatively normal cases. The appendix does not always rise through the incision to meet the exploring hand. It may be retracecal, it may be pelvic, it may, very occasionally, be on the left side, and the search for it through a small incision, with the forcible dragging of intestines through the scanty confines of the wound, makes for postoperative discomfort and sometimes for postoperative shock.

Again, the diagnosis of chronic appendicitis is full of pitfalls. It may be correct, but it very often is not. Peptic ulcer and gall-bladder disease may present the same syndrome, due largely to the fact that all may exhibit a pylorospasm due to hyperacidity. There is, as I see it, not the smallest excuse for the removal of a so-called chronic appendix without a careful investigation of the organs which may give rise to similar symptoms, an investigation which is possible only through a properly placed and properly spaced incision. I am supported in this contention by my own experience: at least 30 per cent of the patients who consult me for gall-bladder disease which requires surgical intervention either exhibit an associated chronic appendicitis or give histories of having been operated on earlier in life for chronic appendicitis without acute attacks. The biliary disease may be a subsequent development, I grant you, but it is reasonable to suppose that it is coincident in a very fair number of cases.

Also unsuspected pathology of other organs may exist. Appendicitis in women is very often associated with pelvic disease, which may require radical surgery. I recall a case in which, concurring in the diagnosis of the pediatrician, I operated upon a child of nine or ten, for supposed acute appendicitis. The appendix was inflamed, but not in proportion to the gravity of the symptoms. Further search, which was possible through the midline incision I had made almost automatically, revealed a mesenteric cyst, the removal of which, even with that exposure, taxed all of my ingenuity. I recall another instance in which, after I had removed a similar appendix, exploration of the pelvis revealed in the culdesac a strangulated, pedunculated, twisted ovarian cyst. And I need not recall to you the cases, the tragic cases, in which appendectomy through a McBurney incision, without exploration, has been followed months later by exploration for continued symptoms and the revelation of inoperable carcinoma of the upper abdmen.

Another advantage of the large incision is that it makes possible the handling of the organs within the body cavity in which they normally lie. Much has been written about the maintenance of body warmth during operation, and elaborate methods have been devised to achieve it, but too little, in my opinion, has been said about the very practical scheme of working upon the organs, as far as possible, within their normal environment, which is not the sterile paraphernalia of the patient's abdominal surfaces. Particularly in exporation there is no justification for dragging the organs out of their beds. The development of the proper tactile sense means that pathology can be detected by touch rather than by sight, and constant practice means that manipulations can be conducted with a minimum of trauma, always providing that the surgeon gives himself the even chance of a sufficiently large incision.

It would seem almost unnecessary to emphasize the fact that asepsis is the chief principle upon which modern surgery is based, and yet how often do we see it forgotten. The mere donning of sterile gloves, as some witty Englishman has remarked, does not give one a roving commis-

sion to touch everything unsterile within one's range of vision. The way to avoid wound infection is to protect the skin edges, not to camouflage them with red, yellow or mahogany, according to one's choice of colors. The way to avoid peritoneal contamination is by meticulous care in every technical detail, not by the lavish use of strong antiseptics.

Hemostasis is a matter of obvious importance, and the abdomen should never be closed without a final careful survey, to be certain that there are no points of oozing. On the other hand, it is possible to be too zealous in regard to one's ligatures. Ochsner pointed out many years ago that sutures tied tightly enough to blanche the tissues would control hemorrhage, but would defeat their own purposes by causing devitalization and subsequent necrosis. Many a wound infection is due to a similar cause, the inclusion within the artery forceps of too much tissue. Halstead considered this point so important that he actually devised his famous mosquito forceps to prevent the possibility. Patients who exhibit a sanious ooze with globules of fat in the discharge on the tenth or twelfth day, who have given no previous signs of inflammatory reaction, are suffering from a fat necrosis which can be traced back to carelessness in this regard. They do not die from it, but their morbidity is increased, as is their disability.

Then there is the question of what to do once the abdomen has been opened. If the patient has a dual pathology, shall we do a double operation, or would his interests be best served by a two-stage performance? If there is pus within the abdomen, should drainage be instituted, or is it sterile? Has he developed an immunity against his infection, and would drainage threaten his safety rather than lessen his risk? Is prophylactic enterostomy necessary in this appendectomy on a man of advanced years, with a gangrenous organ, or on that patient with an apparently early intestinal obstruction, yet with obvious marks of beginning toxemia? Is the combination of a hysterectomy and a cholecystectomy the part of surgical wisdom or the mark of surgical foolishness? Is an incomplete operation the sign of a great surgeon, or the evidence of the indifference and ignorance of a tyro? These are questions to which I can give you no answer, they are questions to which you can give me no answer, at least categorically. But they meet us at every turn, and the answer to them is written not in textbooks but in the larger volume of the book of experience.

The tissues of the human body seem to have been fitted by an all-wise Providence to withstand the attacks of ruthless surgeons, but at that there is such a thing as the limit of endurance, and a patient's postoperative discomfort is exactly proportionate to the amount and mode of handling he has had to undergo in the course of the surgery done upon him. I have seen surgeons operate, surgeons of world-wide reputation, and I have wished that I might follow their patients through their convalescence — if convalescence it were to be—for I did not see how human tissues could be abused as these were without swift and sure retribution. I have seen gall-bladders dragged out of their beds by sheer force, and kidneys twisted from their pedicles with such vigor that the patients were actually raised from the table by the violence of the effort. I have seen small incisions forced wide open by retractors larger than they were, and intestines manipulated as if they were unbreakable steel rather than delicate human flesh. I have seen patients operated on under anesthesia so light that the technic might really have been described as stress and strain, with closure effected by a final mighty

convulsion of force. And I have come away from such scenes more convinced every time that without infinite gentleness of touch no man can hope to be a truly great surgeon. I hold no brief for the wide use of local analgesia, for I believe its field is very strictly limited, but I sometimes wish that surgeons who apparently make strength their god might be forced to use it routinely over a period of time; they might learn then the advantages of delicacy of attack.

I pass over such obvious details as the comfortable placing of the patient on the operating table, though I would pause to remind you that sacroiliac strains and temporary paralysis, sometimes of alarmingly long duration, may result from the ignoring of this seemingly minor consideration. But I cannot conclude without saying a word or two concerning the closure of the wound. "Every abdominal scar," says Moynihan—I quote him for the last time—"is the caress of Lister's hand," but I have seen many a one which suggested to me that the surgical progeny of the great Scotchman were rather heavy-handed. A jagged, irregular, discolored scar is a reproach to the surgeon who made it. In the closure of the wound, the proper tension of the sutures and the approximation of like tissues—cut vessel to cut vessel and cut nerve to cut nerve, if that were possible—will result in the ideal scar, smooth, regular and perfectly healed.

These, then, are some of the factors of safety in abdominal surgery. Time fails me to consider them all, to consider even those I have mentioned with the fullness which they deserve. Meticulous attention to them means more than that we shall see fewer surgical patients die from preventable causes. It means also a definite lessening of postoperative complications and a definite increase in postoperative comfort. They are trifles, it would seem, but they lead to perfection, and perfection, in the words of the great Michael Angelo, perfection itself is no trifle.

TREATMENT OF ACUTE PERITONITIS.*

R. D. KIRK, JR., M. D.,

TUPELO, MISS.

The subject of this paper is a very ancient one, nevertheless I think it very important, since peritonitis as we all know is a very grave condition. It has been called the arch enemy of abdominal surgeons and I believe rightly so, as it often stands as a barrier to success in many of our abdominal operations, especially in intestinal work.

I have nothing new to offer or anything that could be classed as original on the treatment of peritonitis. I wish only to give you a brief resumé and to refresh your memories on the salient features in caring for these unfortunate patients.

ETIOLOGY.

The inciting cause of peritonitis are perforations in the intestinal tract, most frequently the appendix, stomach or duodenum, pelvic inflammation in the form of a salpingitis or as a part of a puerperal sepsis, ruptured gall-bladder, pancreatitis and penetrating wounds of the peritoneum from without. The two great causes of grave peritonitis can be said to be intraperitoneal leakage and delay. The bacteria found include many types but for practical purposes may be said to be most frequently the colon bacilli, gonococci, streptococci, staphylococci, and the pneumococci. Certainly the colon bacilli is the most constant and perhaps the streptococci can be said to be the most virulent. However, the colon bacilli run a close second.

CLASSIFICATION.

The varieties of peritonitis are the localized, the spreading or diffusing, and the generalized.

*Read before the Section on Surgery at the Sixty-third Annual Session of the Mississippi State Medical Association, Vicksburg, May 13, 1930.

TREATMENT.

I believe there is a definite prophylactic treatment for grave peritonitis. Rough handling of the intestines, forcible packing with gauze, tearing apart of adhesions instead of clean cutting with a sharp knife, exposure of the intestines to a desiccating effect of the air, on a patient who does not have an infection, all result in leaving a devitalized surface and predispose to a peritonitis. Given a patient with peritonitis, a profound general anesthesia, large or multiple incisions, manipulation, excessive exposure, separating of natural barriers against the invasion, mopping, lavaging with antiseptics or water, excessive drainage, and improper hemostasis leaving blood clots in the abdomen, all favor the death of the patient.

OPERATION.

We are often confronted with the question when to operate and when not to operate, in a case of ruptured appendix with a peritonitis, in order to obtain the best results and minimum mortality. Every case should be treated individually. Those showing very little resistance to the infection as indicated by normal or subnormal temperature with a low blood count should be treated expectantly in the majority of cases. However, I feel the majority of cases should be operated upon immediately.

The incision in the operation should of course be made over the primary lesion. Leaking openings should be occluded or closed and the cause of the peritonitis removed when possible and deemed advisable.

In the case of a circumscribed peritonitis from an acute appendix, I prefer a McBurney incision, endeavoring to stay lateral to the infected area as much as possible. I would like to say that I do not use this incision universally, but perhaps in 90 per cent of these cases. When it can be definitely foretold that the appendix is not in its most usual place, perhaps deep in the pelvis or high in the abdomen, I use either a right rectus or low midline incision. This choice of incision I realize is an old issue and perhaps a personal whim; however, I believe there is less contamination of the abdomen and less shock to the patient in a lateral gridiron incision. Some claim this incision offers inadequate exposure, however I do not agree, as it can be easily modified by incising the sheath of the rectus and retracting medially. I do not hesitate to cut the internal oblique or transversalis muscle in a direction opposite to the course of their fibers if the situation warrants more exposure. I believe the risk of a subsequent hernia is less dangerous to the patient than the risk of dissemination of infection.

The status of lavage in the peritoneal cavity with various antiseptics has not yet definitely been established, however it seems to be less in favor now than when it was first instituted. I believe it is not only useless but harmful and do not subscribe to its use.

Drainage is always a question. The present day trend seems to be towards less drainage and I think rightly so. I believe here again each case should be a law unto itself. However, there are certain rules by which we should arrive at a decision whether to drain or not to drain. The extent of contamination should be one deciding factor. It is impossible to drain the entire abdominal cavity as in the case of a perforated duodenal ulcer. Drains are usually walled off in a few hours and then drain only the small area in which they are inserted. Multiple drains, especially those between the intestinal coils and to various parts of the abdomen are unnecessary and harmful. The character of the fluid in the abdomen is another deciding factor and a very important one. Offensive fluid should always be a deciding factor to drain; on the other hand there are exudates that are thin and without odor that are better left in, as they are bactericidal and aid in the patient's recovery. All localized pus pockets should be drained. I use cigarette drains almost exclusively and have adopted the rule, if a case requires drainage, of placing two

drains in the abdomen. I do this that I may remove one early and thereby leave a space by the remaining drain through which better drainage may be had. I prefer cigarette drains because they may be left in longer without fear of necrosis as you may get with rubber tubing, and also because they are more comfortable for the patient and easily adapted to the various locations in the abdomen.

CAECOSTOMY.

Dr. Maes, of New Orleans, several years ago, suggested that we do a caecostomy on these patients that are desperately ill, at the same time the appendix is removed, as it is a known fact that those cases, developing fecal fistula early, recover. I have followed his suggestion on a few cases with very gratifying results and believe it should be used more. A small rubber catheter is inserted into the caecum after the Witzel method. The sinus heals promptly after removal of the catheter.

POST-OPERATIVE TREATMENT.

I come now to what I think is the most important part of the treatment of acute peritonitis—post-operative treatment. It is not hard to treat patients after the operation, but it sometimes takes real courage not to overtreat them. I believe the phrase coined by our beloved Woodrow Wilson, "watchful waiting," should be applied in the treatment of these patients. I believe rest, both physiological and anatomical, is essential and by this I mean rest of the entire body including the alimentary canal. To have rest we must be free of pain and this is best obtained by adequate doses of morphin, for which there is no substitute, at regular intervals. By the aid of this wonderful drug the patient often drowses away through a grave illness of which he is hardly aware. We are not only protecting the patient's sensorium but diminishing the peristalsis of the intestines which I think is a very fundamental principal in the treatment of peritonitis. This feature I was never able to appreciate fully until after I had seen motion pictures of the bowel in active peristalsis.

I give morphin, gr. 1/6, every four hours for 48 hours and then as indicated for relief of pain. I do not believe it predisposes to ileus or that it appreciably affects elimination by the kidneys. Rest of the alimentary tract is further obtained by washing out the stomach at frequent intervals when the patient is nauseated, giving absolutely nothing by mouth until active peristalsis sets in (usually about the third or fourth day), and by abstaining from the use of enemas or purgatives. I believe that distension is a protective phenomena, thus enabling the inflamed bowel and tissues to rest and by crowding themselves close together prevent spread of infection. To combat it, is a direct insult to nature our greatest benefactor. I have had patients enter the hospital with a ruptured appendix and peritonitis, be operated upon, recover, and leave the hospital without ever having had either an enema or laxative. It has been my experience that about the fourth day active peristalsis sets in and the bowels move several times without aid. A few cases often develop a diarrhea at this stage lasting for 24 hours or more. If enemas are given the bowels responds in a peevish and resentful way and no results are obtained that are permanent. Tympanites if anything is increased due to this churning of a stagnant bowel. Pituitrin and eserin cannot be too strongly condemned in these cases.

It has been definitely proven that hypochloremia and dehydration are important factors in the cause of death in peritonitis as in obstruction of the bowel. Most everyone is familiar with the enlightening work done by Haden and Orr in this field. With this in mind I attempt to give my patients by hypodermoclysis from 3000 to 5000 c.c. of normal saline every 24 hours, the amount varying with the extent of vomiting. If the case be protracted, I use glucose intravenously, as a food and diuretics. I have used, in a few cases, 2 per cent sodium chloride in the vein, but prefer the normal saline to obtain more volume of water. I have discontinued entirely the use of the Murphy

drip or rectal instillations as I believe they add to the patient's discomfort, incite peristalsis, and are uncertain as to amount retained.

Enterostomy in my experience has been unsatisfactory. However, I believe there are definite cases with lower abdominal peritonitis with obstructive symptoms in which good results may be obtained. If it is to be used, we must be brave and use it early before a complete paralysis ensues.

CONCLUSION.

The treatment of acute peritonitis, in brief, I should say, would be rest both physiological and anatomical, morphin freely, studious neglect of the bowels, sufficient sodium chloride to combat dehydration and hypochloremia enterostomies in selected cases.

DISCUSSION.

Dr. J. F. Armstrong (Jackson): I wish to congratulate Dr. Kirk on his very interesting paper. There is considerable diversity of opinion as to the treatment of acute peritonitis. These patients come to us with a condition of which it is rather hard to determine the exact location, but as a rule when a surgeon sees such a case he wants to operate as soon as possible, if the condition of the patient warrants it. Delay in operation in acute peritonitis means mortality in direct proportion. As to treatment, I think if we are lucky enough to distinguish a localized abscess or localized infection, our incision should be over that area. Where spreading peritonitis is in evidence, a liberal incision will probably be in order. We know an abscess in the upper abdominal cavity is more severe and more attended by fatality than one in the lower abdomen. Some of our cases respond to watchful waiting in cases of acute peritonitis, and I think that is probably the right procedure. They seem to respond better after they have cooled down. Treatment is operative and should be thorough in all respects, a generous incision and adequate drainage. Postoperative treatment is just as important as the operation itself. They are in desperate shock. Fowler's solution, intravenous injection of normal saline, and other stimulation is indicated. I might take issue with one statement made by Dr. Kirk. In postoperative distension of these patients, we know where there is an area of severe irritation of the intestines we will have distension. If this is allowed to proceed for any length of time we get a semi-permanent ileus, and it is my feeling that if it is allowed to continue too long the patient is desperately shocked, and I feel that in some cases death may be due to this factor. I do not see where we can go wrong in these cases that are persistently distended if we resort to some minor method of getting rid of as much gas as possible, or even resorting to enterostomy.

Dr. C. C. Hightower (Hattiesburg): Dr. Kirk has so thoroughly covered this subject in accordance with the way I would handle this condition, that all I can do is to comment on some of his points. I believe as he does that the majority of cases should be operated upon. I think that is the main point. I know that Ochsner's treatment is recognized as being the safe method to follow, four, five or six days after the case has started. I believe, however, if they are operated upon early that will do the patient no harm and may save his life. Under Ochsner's treatment the mortality is 16 per cent. Dr. Kirk says he goes down over the appendix and over the point of the peritonitis. He did not say how. I believe that if you give an adequate dose of morphin or hyoscin, make a very small incision and get to the site of your trouble and remove or occlude it or properly treat it, you have done the patient no harm and stand a chance of saving his life. This applies to all save the delayed cases. I disagree with Dr. Armstrong, if I may be allowed to comment on his remarks. He said to make a large, liberal incision. I believe that is where we get into trouble and create havoc. The smallest possible incision to reach the trouble, I believe, is the safest. So far as drainage is concerned, I believe in a rubber tube, not only two, but a great number bunched around all together, removing one or two each day until in many cases within three or four days you can remove them all. This relieves the pressure from swelling and reduces the large cavity, in which you probably have not taken a single stitch, until it is the size of one tube. I know I have saved several lives by this method. I do not think there is anything we can do when the patient is vomiting and not getting proper elimination except to go in and make a small incision, about one inch long. The patient does not know what you are doing, but put a tube in there and he gets relief. As to lavage, I have used ether in preference to iodin or alcohol locally. Where you have a mass of pus I believe in swabbing it out with ether, and they seem to do well with the procedure.

Dr. John Culley (Oxford): I want to congratulate Dr. Kirk on his paper—not to criticise. I think all his points were well taken. I do want to differ from Dr. Armstrong in regard to the liberal incision. Dr. Kirk brought out the fact that the less damage you do, the less sponging, the better your patient gets along. If you are going to go into that abdomen and find the focus of infection, would it not be nice if you could open

it, lay the intestines aside and see what you have? The answer is, spinal anesthesia. With regard to Dr. Hightower's remarks about enterostomy. I have not been so successful, but in corresponding with Dr. Ochsner of New Orleans he advised me to try his Jutte tube. I make an opening into the jejunum. Most cases which are badly distended have fecal matter in the stomach. I leave the tube in place and have the nurse see that it is kept open. It is surprising how comfortable the patient will be. I merely want to mention this as a suggestion for the next case of peritonitis you have.

Dr. J. K. Avent (Grenada): Four years ago we were making a roentgen-ray examination upon a patient in the office after giving him a barium meal. We made three plates, and he called us to come down, and we found he had a perforated ulcer of the stomach. We opened him up and I was worried about the barium; I had never heard of anything like that. But I was taught to sew them up, so I closed the ulcer, and did not do a gastroenterostomy. That man is getting along well today, without drainage. They had a case in New Orleans of a stomach ulcer in which they found there was a perforation in the intestines. They sewed him up and he got well. The peritoneum will take care of a whole lot more than we think. I believe most deaths are due to absorption from the intestinal tract and not the fault of the peritoneum. I cannot get good results with enterostomy. I open him wide. I find the obstruction and turn it over and put a hole in it, and drain that tract right there. Nobody but a fool would do that, but I am getting good results. I relieve that intestinal obstruction from the inside, and I have found that is the satisfactory method. If I should get peritonitis and you could not get me down flat, give me a little pituitrin; give me an enema. I do not mind. I do believe when you go into the abdomen you should stop any hemorrhage. That will cause more trouble than any infection that is in there.

Dr. E. H. Galloway (Jackson): One thing I do believe and that is in a case of peritonitis, where you know you are going to have abdominal distension the best thing is an enterostomy at once. We know that frequently we do not get results, but that is because we wait too long, until the bowel is paralyzed. About spinal anesthesia: if you have an opening which has drained into the abdominal cavity, from the nature of the thing you are going to pour the contents of the intestine or stomach into the abdomen. For a pus tube, spinal is all right. But a ruptured appendix with a hole in the intestinal tract, where the contents of the bowel are poured into the abdominal cavity, is a different matter. I do not believe in it. I am a great believer in drainage and in a fairly liberal incision.

Dr. V. D. Philpot (Houston): I want to emphasize the point made by Dr. Hightower in regard to local anesthesia. As we know, the patient is pretty badly shocked especially if the case is far advanced, and you add to that traumatic shock, to the shock of infection, and the vitality is that much more lowered. Regarding the size of the incision, that depends of course on whether the infection is generalized or localized. In localized peritonitis we should not make the incision longer than the abscess, because requently there are a good many adhesions and we would not want to go beyond the adhesions. I appreciate what Dr. Kirk said in regard to the instillation of fluids in the veins or muscles. I think the day of the Murphy drip has passed. It may eliminate some gas in the colon, however, and a slow drip for some hours seems to help in that respect. It probably does more harm than good, and I believe instillation through the muscles or veins, of saline or glucose—possibly 100 grams a day of glucose—is much more satisfactory.

Dr. A. Street (Vicksburg): I arise to defend Dr. Culley with regard to spinal anesthesia in acute peritonitis. There is no anesthesia in our experience which is so satisfactory. It causes a contracture of the intestines, but I think that is rather favorable. In going into these cases we want the bowel to contract as much as possible, and even if there is a little opening and a little extra amount squeezed out, you are going to open right away and the little bit extra that is poured out at the site of the leak will not be enough to amount to anything, and the advantage of relaxation and contracture of the bowel, from my experience, is wonderful. With regard to enterostomy. We have not had any good results as compared with duodenal drainage. In years gone by enterostomy was rather common with us in cases with great distension of the abdomen. Since we have used duodenal drainage we rarely have to use enterostomy where we use continuous drainage with the duodenal tube, and we believe this has saved more lives than any other measure in postoperative treatment.

Dr. R. H. Foster (Laurel): We have more or less routine treatment for ruptured appendix. We wash out the stomach once or more, wash out the lower bowel, then if this does not give relief we give small doses of calomel, one-half or one-fourth grain every thirty minutes until five or six doses are given, and it is surprising how quickly this gives relief.

Dr. R. D. Kirk, Jr. (closing): I want to thank the gentlemen for their liberal discussions of my paper. Ie felt sure there were several points in my paper they would take issue with. I did not care to raise the issue as to the type of incision and may repeat that is perhaps a personal whim. It would be useless for me to consume more of your time and I again thank you.

CERTAIN PEDIATRIC ASPECTS OF SOME IMPORTANT SURGICAL CONDITIONS OF INFANTS.*

J. K. BULLOCK, M. D.,

NEW ORLEANS.

Through specialization, medical knowledge is rapidly expanding in all its branches, and it is the links between the various branches that are apt to be the weakest points. With this thought in mind it occurred to me that I would like to hear a discussion from the members of this Society on certain conditions in infancy that are interesting, both as medical and surgical problems.

With new light upon the normal physiologic processes has come the appreciation of the effect of disease on these physiologic mechanisms, and concerted efforts are being directed toward measures which tend to restore physiologic harmony. In infancy the delicate metabolic mechanisms are more easily deranged with a resultant disturbance in the general body function than would occur in an adult suffering with a similar disorder. In many cases an operation removes the cause of the disturbed physiology, but the result of the disordered function must be dealt with postoperatively. Thus, in certain conditions there is likely to be a disturbance in the general metabolism as a result of chemical changes which are brought about by the symptoms of the disease. The symptoms: vomiting, diarrhea, dehydration, oliguria and fever as usually seen in the so-called intestinal intoxications are prone to cause some metabolic disturbance —particularly so when they are manifestations of some focus of infection. The infection may be primary or it may be superimposed upon a condition of malnutrition, with lowered resistance. In either instance medical treatment alone is of no value. In contrast to these metabolic changes as a result of intestinal disturbances due to parental infections, are the changes resulting from intestinal disturbances due to mechanical obstructions. In the treatment of intestinal obstructions it should be remembered that while there are few cases in infants that give as marked disturbances as that resulting from high obstruction in adults, nevertheless the same tendencies are present and call for the same general plan of treatment.

The general effects of infection are largely dependent upon the type of organism and also upon the age of the individual. Thus infections in the middle ear and mastoid or nasal accessory sinuses in infants may lead to such a variety of conditions as vomiting, diarrhea, dehydration, oliguria, fever and failure to gain in weight. This is in contrast to the manifestations seen in older children, viz.: heart disease, hemorrhagic nephritis, chorea, asthma and malnutrition. Thus we see that in infancy the alterations in the general metabolism is the most disturbing feature of the condition, while in older children and adults the result of a focus of infection is usually manifested by some pathological process in some particular organ or group of organs.

The comparatively recent reports by Renaud, Byfield, Floyd, Lyman, Dean, and Marriott on certain types of middle ear and mastoid infections represents the swing of the pendulum to the other side in the consideration of the etiology of gastrointestinal diseases. Previous reports such as that of Du Verney in 1684, on mastoid infections associated with gastrointestinal disturbance, followed by Hartman in 1898, and Preysing in 1904, on digestive disturbances associated with disease of the middle ear, had been passed up with very little comment, but during the past few years quite an unusual amount of importance has been attached to certain mastoid infections as a cause of intestinal intoxication in infants.

Acute alimentary intoxication was originally described by German observers as a clinical picture essentially accompanied

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by changes in the water metabolism of the child and the events that lead to this disturbance in the water metabolism may be vomiting and diarrhea that result from the ingestion of improper or infected food, a disturbed floral balance in the intestine, an active invasion of the intestinal mucosa by pathogenic organisms or any disturbance secondary to infections in other parts of the body. Since Finkelstein introduced protein milk, the mortality rate has been definitely lowered in intestinal intoxications as well as athrepsia. The important question here, is the relative frequency of these intestinal disturbances as a result of infections in general and to mastoid disease in particular.

From a review of the literature one would gather that streptococcal infections of the mastoid antrum, with general systematic symptoms rather than local signs, is a common syndrome. The history is usually one of failure to gain in weight, with serious intestinal symptoms from time to time, and in the severe cases marked loss of weight, vomiting, watery diarrhea, a septic temperature and a tendency to acidosis. Marriott states that infections of the mastoid antrum with other organisms than the streptococcus do not give rise to the same general symptoms and he suggests that it is the streptococcus toxin which exerts a specific action on the capillaries of the body in general and of the intestinal tract in particular which results in the hydrolability which is characteristic. Alden reported that in 35 cases of subperiosteal abscess (mastoid) occurring in the course of six years, the majority of the cultures showed stalphloccocci or nonhemolytic streptococci. On the other hand cultures from the ears of 32 infants with the other form of mastoiditis (i. e. with constitutional rather than local signs) almost without exception showed hemolytic streptococci. This is just one of the many evidences suggesting bacterial specifity in each form of the disease.

Certain chemical changes in the body are brought about by the infection through vomiting, diarrhea, dehydration, oliguria and fever. Vomiting results in the loss of hydrochloric acid and base chloride from the body. There is a loss of bicarbonate and water through intestinal secretion and diarrheal stools. Considerably less hydrochloric acid is secreted into the stomach when fever is present, therefore it is expected that the loss in the chloride content of the blood is not as great when vomiting results from infection as when it results from obstruction. When vomiting results from pyloric stenosis and similar intestinal conditions the result is a loss of hydrochloric acid, base chloride and water from the body. The loss of hydrochloric acid is much greater than the loss of base chloride and leads to a retention of bicarbonate. The difference is the vomitus resulting from infections and obstructions in a general way accounts for the tendency in the former toward an acidosis and the latter toward an alkalosis.

However, in these cases of infections, there are several factors entering into the production of an acidosis, viz, starvation from an insufficient intake of food, anhydremia through loss of fluids by vomiting and diarrhea, an excessive loss of base from the intestines and a disturbance in the carbohydrate metabolism. The anhydremia results in a diminished blood volume with a secondary diminished flow of blood especially in the capillaries which leads to a partial tissue asphyxia and an increased lactic acid production. Acetone bodies are at times increased, but never in association with an increased lactic acid production. In cases of oliguria there is a retention of the acid phosphate and nonprotein nitrogen of the serum. However, it is the relationship between base and chloride that is of importance and when the chloride increases proportionately more than the base or decreases proportionately less, a chloride acidosis results. When bicarbonate is seriously depleted, increased

ventilation almost, but never quite brings the hydrogen ion concentration of the blood back to normal. This shift in the reaction brings about certain changes in the body cells and eventually damage so great that life is no longer possible. Shift has shown that a chloride acidosis may develop in dehydrated infants without diarrhea. In these cases there is a high base with the chloride increased even more than the base.

As stated before the results from vomiting due to pyloric stenosis, is a loss of hydrochloric acid, base chloride and water from the body. In intussusception, the most frequent type of complete obstruction in infancy, or one of its allied conditions, as in volvulus, there is an associated toxemia with chemical changes in the blood, viz.: a reduction in the chloride, a rise in NPN, and a tendency to alkalosis as shown by a rise in the carbon dioxide combining power of the plasma. The causes of these changes has been ascribed to the repeated vomiting with a loss of hydrochloric acid. This is in contrast with the vomiting that occurs from infections, in which the secretion from the stomach is diminished and the loss of hydrochloric acid is slight.

However, the work of Haden and Orr on experimental obstruction in rabbits has shown a similar loss of hydrochloric acid—in animals that do not vomit. This work indicates that the chlorides may be a factor in holding the toxic process in check. It is assumed that it acts as a protection either by preventing protein destruction or by neutralizing the toxic product. The administration of sodium chloride into the bowel of dogs caused a prolongation of life from 25 to 28 days. This conception, at least, furnishes an explanation for the beneficial effects resulting from the administration of sodium chloride and other measures to replace the chlorides of the blood.

Conditions of alkalosis have frequently been overlooked in the past, and not infrequently mistaken for acidosis, leading to alkaline therapy which aggrevates the condition. Marriott says that the condition of alkalosis is as common as that of acidosis. Symptoms suggestive of alkalosis are: lassitude, nausea and vomiting, and fever, with an alkaline urine and the urinary ammonia increased. In some severe cases there may be signs of tetany or convulsions, with an irrgular, shallow, respiration. The clinical picture as a whole may resemble very closely a case of insulin shock. Mayers and Booher reported that there may be an acid urine in a condition of alkalosis.

In any of these conditions of infancy with a general disturbance of the metabolism that are likely to require surgical intervention, it is of paramount importance that the proper supportive treatment is given preoperatively while the decision for operative treatment is being arrived at. Even if not manifested when first seen it should be borne in mind that a disturbance in metabolism with an inorganic salt imbalance is to be expected as the most likely complicating factor in these cases.

The dehydration must be combated by large amounts of fluids. When there are no contra-indications the intraperitoneal route is the one of choice.

Methods of combating water loss should not be used only as a last resort, but should be employed before dehydration has resulted in marked metabolic changes and in serious damage to the kidneys.

Blackfan and Faxcy first advocated intraperitoneal injections as a means of supplying the desired fluids. Ringer's solution and normal saline are the fluids of choice for intraperitoneal use. Sodium bicarbonate has been used with no ill effects. Unfortunately many undesirable results from this method of administering dextrose have been observed. These range from a simple abdominal distention to a rise in temperature, cyanosis and weak pulse. Williams and Smett found that dextrose solutions rapidly become acid on autoclaving or on standing at room tem-

perature. When solutions of higher or lower hydrogen ion concentration are introduced into the circulation the normal buffer substances of the blood serve to correct the faulty reaction and thus protect the body against injury. If the solution is received in a greater amount than the blood can buffer, or at a rate in excess of the capacity of the blood to neutralize it, then a severe reaction or death follows. The method of Sandford and Heitmeyer, however, obviates this objectionable feature. They sterilized the dextrose in the dry state before adding distilled water, and used the solution soon after preparation. A 4.7 per cent solution of glucose is isotonic and concentrations of more than 5 per cent are not readily absorbed from the peritoneal cavity. This relatively simple method of intraperitoneal injection, however, has definite limitations. It is contraindicated in preoperative and postoperative abdominal conditions and many other pathological states of the abdominal cavity and its contents. Intramuscular injection of fluids is the most commonly used and the one most often available. The location of choice and the one particularly desirable for dextrose solutions is the lateral or anterolateral portion of the thigh. This location is free of important vessels and nerves and the tissues are loose and take up fluids rapidly, amounts of from 30 to 40 c.c. being absorbed in about an hour. As a routine procedure it is best to use both saline and glucose. A 5 per cent solution of glucose in saline, given by hypodermoclysis, is a very desirable method when there is no urgent demand for large amounts of fluids.

The preoperative and postoperative treatment of obstructions such as intussusception, consists in the free use of saline, as Haden and Orr have shown that other inorganic salts such as ammonium chloride, potassium chloride, calcium chloride and magnesium chloride do not prevent the fall in chlorides and the rise in NPN, as does the administration of sodium chloride.

In cases of parental infections, particularly the middle ear and mastoid, the medical treatment consists in giving a proper diet including a high vitamine content, the administration of large amounts of fluids, blood transfusions, and ultra-violet light therapy. Mariott states that in some cases of otitis, a myringotomy may have to be repeated several times. If the infant does not improve, or if in very bad condition when first seen, it may be better to open the mastoid immediately. The operative procedure consists of a postauricular drainage, which is very simple compared to the more extensive mastoidectomy required in older children. Most of these infants are in very bad condition when first seen and many of them have a coincident upper respiratory infection, which is a contraindication to general anesthesia.

Blood transfusion is indicated in many of the severe cases. It builds up the blood content, supplies fresh anti- bodies, and the necessary blood salts and hemoglobin. The plasma acts as a buffer and the red cells take up a certain amount of carbonic acid.

Glucose should be given intra-muscularly in 10 to 15 per cent solution. In cases with non-diabetic ketosis that do not respond to the glucose and where the glucose is being thrown off by the kidneys, indicating that the organism is unable to utilize it, insulin should be added in amounts of 15 units to each 100 c.c. of glucose. I cannot see the necessity of using the peritoneal cavity for glucose, as equal amounts can be given intra-muscularly, while the peritoneal cavity is being used for something else.

Hartmann has shown that the administration of saline when diarrhea and oliguria persist is contraindicated because

there is a tendency toward retention of chloride. The effect of such administration may be to increase the degree of acidosis and to prevent the restoration of a normal acid-base equilibrium. Schoenthal has experimentally produced symptoms characteristic of intestinal intoxication by the administration of sodium chloride. Sodium bicarbonate by mouth, intramuscularly or intravenously should be given, but only in small amounts. Large amounts have an effect of disturbing the balance between the sodium, calcium and magnesium ions in the blood, or producing too much alkali causing symptoms of alkalosis. Howland found that the simplest indication of sufficient alkali administration was a shift in the urinary reaction to normal. The following simple test may be used: One drop of cresol purple is added to a fresh specimen of urine. If the color remains green more alkali is needed. If it changes to any shade of purple or red, a sufficient amount of alkali has been given. The urinary reaction is used only when it is not feasible to make laboratory tests for the alveolar carbon dioxide tension or the carbon dioxide combining power of the plasma. The total amount of bicarbonate in the body is approximately 2 gm. per kilo of body weight, and if by one of these methods, it is found to be reduced, say one-half, then one gm. per kilo would be needed to restore normal conditions. When the sodium solution is given intravenously, a 4 per cent solution in amounts varying, according to indications, from 15 to 20 c.c. per kilo of body weight. This is to be adiminstered slowly several times in 24 hours. To prepare the solution, the soda is added to freshly distilled and sterile water. No further sterilization is needed.

Food is the most important therapy after the initial symptoms are relieved. After a short period of rest, from 6 to 8 hours, cereal gruels sweetened with maltrose-dextrin compounds should be given. Cow's milk is contra-indicated due to its high buffer action unless acid is added to it in order to neutralize the buffer solution sufficiently so the small amount of acid in the stomach will be able to have its full action.

The fever causes a decreased secretion of hydrochloric acid into the stomach, and this insufficient buffer allows contents into the duodenum which are not sufficient to counteract the alkaline juices from the intestinal mucosa, pancreas and liver. The intestinal flora is changed when the contents become alkaline, and becomes similar to that of the lower bowel. Of course this is a contributing factor to the diarrhea in these cases and the intestinal flora must be restored to normal by the proper food. Of the various acid milks being used, lactic acid and citric acid milks seem to be of most value. These organic acids, when given in small amounts, are completely oxidized, leaving the inorganic bases to correct the acidotic condition. Lemon juice milk not only furnishes the necessary acid, but also a certain vitamine content that is so important for infants following severe illnesses.

There seems to be quite sufficient evidence of the not infrequent occurrence of such parental disturbances as has just been discussed, however, the mere autopsy or biopsy findings of pathogenic organisms in the mastoid does not warrant the assumption of infection. The presence of these organisms might be accounted for by the relative patency of the eustachion

tube and the adenoid tissue surrounding it. Even though there is some active infection, a too rapid surgical procedure might be unnecessary in some cases that would have subsided spontaneously. However, there have been certain advocates of the indiscriminate opening of mastoid and middle ear cavities on gastro-intestinal symptoms alone. The mastoid antrum of infants normally contains a yellow, gelatinous, embryonic tissue that should serve purposes other than that of being mistaken for pus.

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PROTEIN THERAPY IN OPHTHALMOLOGY.*

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A few years ago while summarizing recent work in ophthalmology, a professor in one of our state universities thus introduced the subject: "There has been little added to the treatment of gonorrheal infection of the eye in the past twenty years that justifies any definite assurance of good results in any case. The general statistics following this infection show blindness in over ninety per cent. Its normal course with the present applied therapy covers so long a period, that the corneal epithelium is irreparably damaged and followed invariably by scar formation and opacity, or loss of the entirely eye-ball."

Those of us who were engaged in ophthalmology at the time, undoubtedly recall how true was this pessimistic picture, and it is still true if reliance is placed only upon those agents of local application that have been our chief aids for the past quarter century. Fortunately, we now have at our command one of rapid and almost certain action, that when properly used within the early course of the infection, changes this dreaded condition of gonorrheal conjunctivitis into a relatively simple inflammatory process. By this means the duration of the disease is cut short, it is essentially lacking in the violence we formerly saw, and practically devoid of distressing sequella. I refer to the action of non-specific protein injections, especially that of milk.

A large amount of both clinical and experimental work has been done in ophthalmology during the past ten year in an effort to determine the exact status of this non-specific protein therapy. A great variety of agents have been investigated, such as

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serums, either plain or containing various anti-substances, blood from the individual or others, proteins of different types and sources, protein split products, crotalin, milk from different kinds of animals, enzymes, tissue and bacterial extracts, vaccines, colloidal metals, complex organic acids and even turpentine. The effects of these naturally varied considerably, and few advanced beyond the experimental stage. The three that survived, and have become generally recognized, are typhoid vaccine, horse serum and milk.

Many theories have been called into being to explain the action on the body of these foreign proteins, they being chiefly: 1. That such injections may stimulate the body cells to produce anti-substances, thus mobilizing the various defenses which we are capable of calling to our aid. 2. There may be a reduction in the virulence of the infecting organism due to the increased temperature which the body has assumed by the development of fever. 3. There seems to be increased permeality of capillaries; *i. e.*, a lymphogogic action, that allows more antibodies to come into contact with the invading organism. 4. There is certainly a well marked leukocytosis, which in itself is capable of adding no small amount to the body defenses. Whatever protein is used, the general affects are the same, they all being the phenomena of colliodal action, with which we are just becoming acquainted.

C. Y. Ling, reporting in the Archives of Internal Medicine for May, 1925, found that peripheral leukocytosis is highest after milk injections, and next after typhoid vaccine. Also that there is a persistent lymphocytosis after injections of crotalin or distilled water, and a persistent eosinophilia in those given peptone solutions. Such studies may eventually lead to greater precision in the choice of the most effective protein to be employed.

The undeniable clinical results of protein injections seen in certain infections of the eye during the past fifteen years, can no longer be swept aside by theoretic conceptions of specific therapy. These injections have been employed in addition to the various agents formerly found of benefit, and the combination enhances the result, and controls the objective manifestations of disease to a remarkable degree. Following their use there is an abrupt relief of pain, with subsiding irritation of the conjunctiva and iris, a lessening of discharge with rapid clearing away of ulcer debris, and early appearance of the process of repair. These injections are not relied upon to combat the infection alone, and no claim is made for then as direct germicides.

These therapeutic effects of protein injections are undoubtedly produced by an altered reaction of the entire body, rather than by directly influencing the invading organism. This reaction is manifested by a feeling of malaise that appears within three hours after the introduction of the protein, followed by a rigor, with rise of temperature, sweating and leukocytosis.

It was early recognized that only those proteins are effective therapeutically, that are capable of producing this reaction of systemic shock, and with this in view, the dose must be sufficient to bring it about. It is strange therefore that certain manufacturers persist in putting forth claims of superiority for their product, on account of the absence of reaction following its use. In endeavoring to isolate such an agent they miss the point entirely, and by stating that the general reaction is absent, they demonstrate the practical uselessness of their preparation.

Protein therapy has not advanced as rapidly in other branches of medicine as in ophthalmology, largely because it conflicts with our preconceived ideas regarding bacterial actions on the body, and the specific type of reaction necessary to overcome them. Also it has been difficult to demonstrate on animals experimentally. Nevertheless it stands today one of the most potent agents at our command in the treatment of certain acute types of eye in-

fections, and the clinical evidences of its efficiency are beyond question.

While protein injections have been more largely employed in diseases of the eye, it is inconceivable that their usefulness is thus limited. The reaction produced is of a definite type, and where a speedy increase is needed in the defenses of the body against any form of acute infection, their use should be considered. Intravenous injections of proteins, which have been found of value in some types of arthritis, have not had general adoption on account of the rapid onset and severity of their reactions. Although they have been credited with lighting up a quiescent tubercular focus, this unfortunate result has never been actually demonstrated, and it was probably a mere coincidence.

Intramuscular injections of milk were introduced by Schmidt and Saxl in 1915. This form of protein was selected because it is readily available in any amount and in any place, it is cheap, and its composition is fairly constant. After being brought to general notice it was taken up and widely employed in the treatment of every disorder to which the eye is liable. It was quickly demonstrated to fall short of being a panacea, and its beneficial effects were found to be practically limited to the acute inflammatory conditions of the anterior segment. Austrian and German workers have been enthusiastic in its use for the past ten years, especially since Lindner reported that no organisms could be demonstrated in a gonorrheal infected conjunctiva thirty-six hours after beginning milk injections.

In explaining how milk benefits these conditions, it is believed the febrile reactions are due to two main factors: 1. Dead bacterial proteins; 2, soluble substances produced by the action of bacteria on the milk. That the bacterial count is of prime importance, is shown by the fact that sterile milk has little or no therapeutic value. While always using milk of high bacterial count, I have never allowed it to become actually curdled, although probably the only disadvantage of this would be in the needle becoming clogged.

In the presence of acute infections of the eye, the first effect of milk injection is the cessation of pain and photophobia. Edema of the lids and chemosis of the conjunctiva lessen markedly. That this is due to the general and not local reaction, is shown by the fact that sub-conjunctival injections of milk are without value. This would be expected, as the volume thus introduced is so small it could cause little or no general effects. It is thus devoid of therapeutic benefits.

Not only has the efficacy of these protein injections been found limited to acute conditions, but to the acute conditions of the anterior segment, *i. e.*, from the ciliary body forward. This distinction is probably due to differences in blood supply. That of the anterior segment is abundant, while that of the posterior is relatively small. Whatever anti-substances are called into the circulation would thus be concentrated in the anterior portions of the globe. Within the vitreous there is no active circulation. Also protein injections have been found to produce no effect on infections of the vitreous.

The organisms most susceptible to the use of milk are the staphylococcus aureus, the pneumococcus, and especially the gonococcus. We therefore use milk intramuscularly in all gonorrheal infections of the eye, in corneal ulcers of whatever type, in acute iritis of whatever cause, in perforating wounds of the anterior segment either in the presence of infection, or where the development of infection is deemed liable. While pemphigus of the conjunctiva is exceedingly rare, in one case, milk injections during its acute exacerbations, cleared the corneal infiltrations and relieved the distressing irritation to a remarkable degree. For some unknown reason, these beneficial effects on the conjunctiva are not seen in trachoma, although in trachomatous ulceration of the cornea, which is probably due to super-added infection, they are of distinct benefit.

This antibacterial reaction is taken advantage of when necessary to operate upon an eye in the presence of obvious infection, or where infection is feared. The injection is first made, and the operation is then completed. Four to six hours later the infection should become manifest. But this is just the time the body resistance is at its highest, and infection does not occur. We are thus enabled to operate with comparative safety, and largely irrespective of the condition of the eyes. To attempt operation without this prophylactic injection, would render the eye liable to infection. By this means we are saving eyes today in spite of severe infections or injuries, where formerly they were either lost entirely or became so profoundly disorganized as to be of limited functional use.

Dr. Verhoeff reported that sympathetic ophthalmia, for which up to the present we have no effective treatment, seems to yield to massive doses of foreign protein in the form of horse serum continued over several weeks. Also interstitial keratitis, although probably syphilic in origin is not influenced by antisyphilitic treatment, has been found to clear in about half the usual time, when it is combined with some form of protein injection.

The most direct agents calling forth the defenses of the body are undoubtedly the bacterial proteins contained in the milk. With a low bacterial count, it is only slightly effective. The milk itself is thus but the medium for growing its bacterial contamination, and probably enters into the reaction only in a minor way.

The method I have habitually employed, is to pour off the cream from a pint of raw milk, and empty about 30 c.c. into a small flask. While this is much more than will be used, allowance must be made for some evaporation. This is incubated or allowed to sit on a warm radiator for about four hours, in order that its bacteria count will mount rapidly. It must be kept warm, but not hot.

By experience I have found that the patient should attain a temperature of about 103 degrees in order to derive the maximum effects. This will usually be produced by the injection of 1 c.c. for each 6 kilos, or fifteen pounds of body weight. Mixing systems of weights is not generally regarded with favor, but the formula of 1 c.c. to each 15 pounds, is easily remembered. However I have never given over 12 c.c., and seldom exceed 10 c.c.

After sufficient incubation, the flask is placed in boiling salt water, and watched until the milk itself begins to boil. This is continued three minutes, when a portion is poured off into a sterile medicine glass, from which the syringe can be readily filled. Of course this three minute boiling will not kill spore bearers, but in the many injections I have given and seen given, there was never any sign of abscess formation, and in only one did symptoms of anaphylaxis arise. The needle is quickly plunged into the gluteus, and allowed to remain sufficiently to see that no vein has been entered. The injection is then made very slowly.

The typical reaction appears within three to five hours, and is usually gone after ten. If the temperature has reached 103 degrees or thereabouts, the effect on the eye is very evident. If the first injection does not produce sufficient reaction, it can be repeated the next day, or even the third may be given. It is seldom necessary to give over three. At the same time local applications are vigorously pushed. Local soreness in the gluteus is usually gone after forty-eight hours.

Our local treatment of these anterior inflammations of the eye has not changed materially for the past twenty years. Now, however, conditions that were formerly looked upon with dread, can be quickly and efficiently handled. The only change in our method of attack, is the addition of protein injections. Just how these produce their striking results, the laboratory workers will eventually explain.

DISCUSSION.

Dr. M. H. Bell (Vicksburg): My experience with the use of protein therapy is practically limited to pneumococcus ulcers of the cornea. Quite a number of years ago Dr. Ellett was kind enough to bring that over from France and put me on to it, and following the beginning of that therapy I lost most of my dread of the pneumococcus. Up to that time when I had the misfortune to have to treat a patient, they were always told that the eye was gone when the diagnosis was made, and it usually followed true to form. At that time we used the diphtheritic serum. The other serums had not developed as they have now, but it is helpful and enables you to save the eye with a useful cornea in most cases. I have not used it in gonorrheal conjunctivitis, because I have not seen a case in my practice in six or eight years, and I hope I never see another case to have to treat.

Dr. L. S. Gaudet (Natchez): I appreciate very much the privilege extended to me to discuss this excellent paper by the learned ophthalmologist.

Some parts I disagree with and other parts I agree with him. I believe that Dr. Wilde when he states that this dreaded gonorrheal conjunctivitis is changed into a relatively simple inflammatory process might create a somewhat false impression. I do not agree with him on this as potentially this type of infection is the most serious of all eye infections causing more blindness than any other type of disease that can befall the eye, with a grave prognosis regardless of any treatment that can be used.

All cases of Neisser infection of the eye demand the most vigorous local and systemic treatment that the oculist can administer.

I do agree with Dr. Wilde that very few proteins have stood the test of time in increasing leukocytosis, and that milk does stand foremost, because of better results obtained, easy to procure, easy to prepare, easy to use and last but not least, very inexpensive which is important, too.

The theories of action of protein injections to raise body resistance as outlined, I believe has been accepted by most ophthalmologists.

In regard to operation in the presence of an obvious infection, or where infection is feared, I would like to ask the author to enlighten me by informing me if he does a lens extraction under similar conditions, by preceding the operation by protein therapy, and if so, what results he has obtained.

Dr. W. S. Sims (Jackson): I believe Dr. Wilde omitted one thing that we might mention, namely, if you fail to get the desired reaction with one protein, try another such as diphtheria antitoxin, or typhoid vaccine. I had never thought well of this protein therapy until recently, but some practical demonstrations have converted me thoroughly to its usefulness. As Dr. Wilde says, it is not a cure-all, but for any form of acute infection of the anterior portions of the eye, it is certainly very effective.

Quite recently a middle aged lady had a very virulent intraocular infection following an operation. We don't like to acknowledge these things, but that is true. For the first three days the eyes had been very promising, but on the fourth I found the eye quite reddened, and the patient suffering considerable pain. I knew the devil was to pay, and immediately put her on the usual treatments for conditions of that kind and severity. As the eye grew steadily worse, I asked Dr. Wilde to see that case with me, which he kindly did, and he suggested milk injections. The improvement we obtained was simply remarkable. Within twenty-four hours there was little pain, and the eye has since improved steadily. I am just as sure that the milk injections saved that lady's eye, as I am that I am standing here. It also saved me, as it is a very serious thing for an oculist to lose an eye.

Heretofore authorities seem to have been divided on this subject of protein therapy, but after demonstrations of this kind I am now thoroughly converted to its use.

Dr. E. C. Ellett (Memphis): My first knowledge of the use of a foreign protein in ophthalmology was in 1910 or 1913, when one of the men at the Rothschild Foundation in Paris was using diphtheria antoxin in pneumococcus ulcers of the cornea empirically. I think we are still using it empirically, but on at least a more accurate, if not a more scientific basis.

All that Dr. Wilde has to say about the good effect of this treatment is certainly in accord with my own experience. It is perfectly marvelous what can be done in certain cases that we formerly looked upon with great dread.

I was interested in hearing what he had to say about the proprietary proteins. My experience with the proprietary proteins such as Lactogen and others, is that this is the least efficient form. Typhoid vaccines and diphtheria antitoxins are always available, and seem to me to be very effective, especially if they are given into the vein, but we use milk more than anything else. The method of preparation that Dr. Wilde has spoken of is about what they are using in Vienna, except that I do not think they bring the milk to a boil, which I understood Dr. Wilde to say he did. It is more of a pasteurization. With the milk in a double walled container they bring it to a high temperature, but short of boiling. They think that will take care of any bacteria, with the

exception of tetanus, but they rely on the state inspection of the milk for protection against tetanus, and so far they have had no trouble from that source. I think in addition to the effect on disease of the anterior segment, which is so easily seen, that we can get the effect in case of deeper seated trouble like choroiditis, but the effect is most apparent where you can see the changes, particularly the way in which an anterior chamber exudate will clear up under the influence of this treatment right away.

I seem to have lost my reputation in gonorrheal ophthalmia, at any rate to my great delight, they do not come to me any more and I have not treated a case for a good while. I say, "Amen," to Dr. Bell's sentiment, and I hope I never will again see any. We have an isolation hospital in Memphis and they take these cases, but I do not know whether they use foreign protein with them or not. A good many of their cases are ophthalmia neonatorum. I would like to ask Dr. Wilde if he would give this treatment to a new born baby.

Dr. E. E. Benoist (Natchez): I am not an eye, ear, nose and throat man, and I am not going to take up a lot of time talking about something I do not know much about, but we, who do general practice, have very similar problems in bringing about the body's defense, as do the ophthalmologists. I believe in gonorrheal ophthalmia, that it is necessary to get the general defenses of the body aroused to attack this condition. If I understood Dr. Wilde correctly, he stated he did not get good results unless he got a reaction that would give the patient a temperature of about 103°. I want to mention that in some cases of gonorrheal infection and other infections in other parts of the body, where as far as possible we have tried to find the infecting organism, that I have used agents to bring about a general reaction including milk, and I have gotten very good results by using large doses of vaccine. Vaccines are not very popular and the questionnaire which was sent out to a number of doctors over the country, showed that the majority of the doctors state that they did not use them, and I do not use them very often. But I have had good results in the few cases where instead of using the dose recommended, I have taken the gonorrhea mixed vaccine and instead of giving it just for the effect that it had on the gonorrheal organism in the vaccine, I have given it as much to get the protein reaction as for any other purpose. Instead of starting off with one-half cc, I start off with 2 cc and work up to 4 cc. It gives the patient quite a reaction. I had a case of arthritis which was unquestionably gonorrheal. I was never able to find the organism, but the patient's husband had a history of gonorrheal infection. I had used intravenously mercurochrome, local treatment and a great many other agents for several weeks without results and on giving gonorrheal mixed vaccine (the preparation I used was one put up by Eli Lilly) as soon as I began to get a reaction from the vaccine the patient for the first time began to have relief from the pain in the infected joints. That might be considered a coincidence, but I have had the same thing to happen in other cases, and in some cases of gonorrheal prostatitis, I am not a G. U. man at all, but I think I may mention it because the underlying principles in this form of treatment are the same. It is important to find out what your infecting organism is before proceeding with your treatment.

Dr. W. L. Hughes (Jackson): I just want to say that I have used milk in several cases and have had success in most every case, but I want to speak of gonorrheal ophthalmia.

In the past three years I have seen three cases of gonorrheal ophthalmia, two while serving my interneship and one in private practice. One of these cases came in about two weeks after the onset with a deep ulcer of the cornea. With milk injections this case cleared up in two weeks leaving a large scar but with vision around the scar.

The case I would like to speak about is one that I had in my private practice. I was called to see a patient, a child about four years old, one night. The child had complained of the eyes itching that morning. When I saw it about twelve hours later it had a typical picture of gonorrheal ophthalmia with the lids intensely swollen and pus streaming from the eye. I gave it milk injections immediately, repeating it every other day, giving it altogether three injections. There was marked improvement in twenty-four hours and on the fourth day the child left the hospital with the lids practically free from swelling. Of course there was some inflammation but the pain and swelling had subsided largely within forty-eight hours. I may as I grow older not like to deal with gonorrheal ophthalmia, but right now, if you give me plenty of milk, you may send them all to me.

Dr. H. G. McCormick (Laurel): I am not an ophthalmologist. I am a specialist on diseases of men, women and children. I just want to ask one question. I did not hear Dr. Wilde say

whether this protein therapy would be applicable in other invasions of the eye, for instances, traumatic infection from slivers and things of that sort. I would like, in his closing discussion for him to answer that particular question.

Dr. Wilde (closing): As for the incidence of gonorrhea of the eye, we very fortunately are seeing less and less, due to the general public being acquainted with the fact that the eye is susceptible to infections of that kind. Possibly I have seen more than my share, having spent the last twenty years in the medical service of the army. As Kipling said, "Single men in barracks, don't grow to plaster Saints,"— that observation being as true of the American Army as of the British.

When I first entered the army, cases of gonorrheal eye infection were usually shunted off to some outlying building, as it was regarded as both dangerous and tiresome to handle, and its outcome well nigh hopeless. The junior present was held responsible for their treatment and they were liable to be thus kept from two to six months, to be finally discharged with impaired vision if not the loss of an eye. Since then this has all been changed.

I have no fear of any gonorrheal eye if seen in the very early stages, when twenty-four hours are sufficient to bring it under control. If the affection has already become aggravated, and the conjunctiva forms a great chemotic ring at the limbus so that the cornea is already ulcerated, or perhaps ready to drop out, naturally the outlook is very serious, regardless of any form of treatment. However, even here protein injections aggressively used are of great assistance in saving the eye, although not capable of exerting the immediate and certain effects seen in the acute stage.

As for prophylactic injections prior to operating upon an obviously infected eye, naturally we would hesitate to remove a cataract or undertake any other serious step in the face of an acute infection or purulent secretion. However, where we have a thickened velvety conjunctiva resulting from a former infection that may be still present in some degree, yet the patient or time demands operation—that is the indication for the prophylactic injections of protein. About the time the infection would normally have taken place, the resistance of the body is at its height and the patient is able to throw it off. So, instead of subjecting such cases to months of preliminary treatment, we give the injection and proceed with the operation.

Dr. Ellett's statement about the various proprietaries not being therapeutically efficient, is certainly true. That is because they attempt to isolate an agent that is devoid of the characteristic shock, but retains its therapeutic usefulness. Naturally they have failed, as when the shock is absent, it is of limited medicinal aid. Also when you use a highly sterile milk, the results are of uncertain value. The milk should either have a high bacterial count, or it must be produced by preliminary incubation. I have always brought the milk to an actual boil prior to injection, as it seems I am running less risk of conveying infection than when it has been merely pasteurized.

In ophthalmia neonatorum, I have used milk on three occasions, but it did not produce the marked effects seen in the adult. The body resistance system of the new born is not greatly developed, and hence its stimulation is uncertain. Also as they possess very thin glutei, intramuscular injections are difficult. Although these cases are less severe than in the adult and yield more readily to local treatment, still if of more than ordinary acuteness I believe we are safer to also use these protein injections in the proportion of 1 c.c. to each 15 pounds, which would mean about 0.5 c.c. to the average newly born. Of course the usual vigorous and almost continuous local treatment is carried out.

In traumatisms of the eye either severely abrading or actually perforating the coats, protein injections find one of their most useful indications. Just as soon as we see a case of this kind, a sufficient protein injection is given to produce the characteristic shock. If infection has not already set in, it will then be unlikely to. If infection is present this assists materially in bringing it under control, and the usual local treatments are continued as heretofore. This combination changes the picture into a relatively simple condition providing the infection is limited to the anterior segment, a contrast that is very gratifiying in comparison with those we formerly saw in similar instances.

SOME OBSERVATIONS ON THE EFFECTS OF POTASSIUM SULPHOCYANATE ON ELEVATED BLOOD PRESSURE.*

P. J. SALEEBY, M. D.,

NEW ORLEANS.

The use of sulphocyanates in hypertension was based by the early investigators, Pauli and Pal, as well as Westphal and Blum, on the theory that the sulphocyanates of potassium and sodium cause an increase in the permeability of cell membranes and a swelling of colloid material, in this way overcoming vasoconstriction and lowering the blood pressure. This effect is supposedly associated with cholesterin metabolism. Cholesterin is said to increase the tonus of smooth muscle and in this way cause a vasoconstriction of the arteries and arterioles, and sulphocyanate by a sort of hydrophilic change on the substance overcomes this effect and acts as a vascular sedative.

Pauli and Pal used excessive doses of the drug, three grams per day, with the result as the desired effect on the blood pressure, but produced such general toxic effects that the use of the drug was abandoned for a decade.

Westphal and Blum, after much trial and error clinical investigation, decided that the dose of 0.1 gram (1½ grains) three times a day was the most satisfactory even though the effect on blood pressure was only slight. They found that by using this dosage the subjective symptoms especially were most favorably affected. Headache, dizziness, insomnia, angina, and palpatation were relieved in three to four days. The use of sulphocyanate therapy also yielded good results in disturbances of the menopause and in angiospastic conditions. The blood pressure variations were consistently smaller at the ideal dosage, but there were never any toxic symptoms.

*Read before the Orleans Parish Medical Society May 13, 1929.

The extreme vertigo, dizziness, fainting, and headache, as well as the cardiac fatigue paroxysmal anginal seizures, and cerebral angiospastic attacks common in fluctuating hypertension were often strikingly relieved. These usually occurred in the presence of only slightly lowered pressure and are apparently the result of the blood pressure stabilizing effect of the drug.

With larger doses of 0.2 and 0.3 to 0.5 grams or 3 to 7½ grains, they had much more spectacular effects in lowering the blood pressure, but there were certain toxic effects; as, exanthema, coryza, nausea, diarrhea, edema, fatigue, psychic disturbances, depression, psychoses, a tendency to inflammation, general muscle weakness, exhaustion, and collapse, which symptoms increase in severity with the increased dose and make these doses actually dangerous.

It was found that often the effects of the drug became apparent only after its use was discontinued. In the presence of pronounced functional disturbances of the kidney blood pressure was unaffected by the use of potassium sulphocyanate. The arteriosclerotic kidney cases with hypertension responded somewhat, though by no means spectacularly. However, the chronic sclerotic was found not to contraindicate the use of the drug.

Because of the tendency of the drug to produce active hyperemia and exudation, it is contraindicated in the presence of acute or subacute inflammatory processes in any part as the lungs, kidneys, heart, or liver. Acute and subacute glomerulonephritis and its sequelae, as well as the primarily contracted kidney and the resulting hypertension, are unaffected by sulphocyanates and furthermore are not good risks for the use of the drug. The severely engorged kidney of severe congestive heart failure does not tolerate the drug well and responds with the production of a complicating acute retention. This is due to local irritation rather than to the fall of

blood pressure per se, for it has been quite well established that the hypertension is not a necessity to insure adequate renal function.

It must be admitted, however, that the hypertension patients who have carried a systolic pressure of 250 to 200 mm. Hg. are often more comfortable at high levels of blood pressure than when the tension is lowered whether this is lowered gradually or suddenly. Certainly 170 mm. Hg. systolic is the lower limit at which such patients should be maintained for the best general results.

Kramer corroborated the experiences of Westphal and Blum and extended the observations, especially along the line of long continued administration of sulphocynates. He also concluded that chronic nephritis with hypertension and chronic cardiacs with severe congestive failure reacted poorly to the drugs. Patients with hypertension, intracranial pressure increase, and its symptoms were spectacularly relieved as the blood pressures dropped 50 to 60 mm. The standard dosage, 0.1 gram or 1½ grains, was used thrice daily for three weeks, then interrupted for two weeks and began again in double the dosage if there had been no effects. The drug was thus used for months without untoward effects.

Gager in a series managed individually, giving consideration to heredity, environment, adjustment in manner of living, work, recreation, rest, diet, fluid intake, weight, focal infection, or glandular deficiency, correcting these but using as the only drug sulphocyanate, had but ten per cent of failures in reducing blood pressure. His studies corroborated all those of previous German investigators. He found that in some of his cases it was necessary to continue the drug four to seven weeks before observing a conspicuous fall in blood pressure. He also observed a return of symptoms in patients as the drug that had relieved them was withdrawn. One instance of possible exaggeration of anginal symptoms by the dropping of blood pressure with sulphocyanate is cited. One patient complained of weakness during the first week and two had rashes appear. One absolutely refractory case was recorded.

CLINICAL DATA.

Potassium sulphocyanate was given to eighty-eight patients in the Charity Hospital outpatient department. Only ten of them, however, could be seen often enough or long enough to make observations of any value. Of the ten, seven were colored women and three were white men.

Each patient was observed for at least one week, during which time blood pressure and renal function studies were made. Then potassium sulphocyanate was prescribed, 0.1 gram (1½ grain) three times daily, continuously without interruption of the drug or the daily routine of the patient.

Of the colored women three have been on the drug for three to four weeks and the fall in pressure in these cases has been 35-45mm. Hg. Their kidney function test (P.S.P.) was 35, 40, and 50, and N.P.N 37.5, 37.5, and 34.7. The urine was negative in all three. The heart was enlarged to the left in all three. All of them complained of headaches. In these three patients all the subjective symptoms were relieved.

Another three of the colored women were on the drug six, seven, and eight weeks, respectively. In these the fall in blood pressure was 64, 34, and 40 mm. Hg. The P.S.P. was 50 and 65 in two of these cases (not done on one). The N.P.N. was 36.3 in the first and 46.1-54.4 in the third (two tests having been done). The urine was negative in all. The complaints were headache, oppression in the epigastrium and epistaxis. In all of these the subjective symptoms were relieved in the first week or two. The blood pressure in one of these at the end of the seventh week was down to 150 mmg., a fall of 80 mm. However, in the next two weeks it rose again, leaving the total fall 40 mm. for

eight weeks. This case had an N.P.N of 46.1 and 54.4, although the P.S.P. was 65 per cent in two hours. She is still on the drug.

The last of the colored women, aged 40 years, complained of precordial pain. The P.S.P. was 15 per cent and N.P.N was 80. The heart was enlarged, and the urine contained 2 per cent of moist albumin but no casts. She was on the drug seven weeks and during this time the blood pressure varied from 170 to 210 mm. Hg. The variations were large, the largest per week 40 and the smallest 10. This woman had no amelioration of her symptoms.

Three men were given the drug. Two of them took it for fifteen to sixteen weeks and had a fall of 30-70 mm. Hg. One complained of dizziness and nocturnia and one of headaches. Both were relieved of subsure varied from 175 to 210 mm. Hg. and jective symptoms.

The third man was interesting in that he was refractory to all forms of treatment. He was given as much as four doses daily with no effect. The blood pressure varied from 175 to 210 mm. Hg. and seemed to be fixed between these figures. Other forms of treatment, K. I. 20 gtts sat. sol. twice daily with $KSCNO_2$ 1½ gra., had little effect. Four exposures to the quartz lamp had no effect.

SUMMARY AND CONCLUSIONS.

In ninety per cent of the cases studied gratifying relief of symptoms was obtained in an unselected series of individuals with chronic hypertension by the use of potassium sulphocyanate in conjunction with outpatient general and dietetic management.

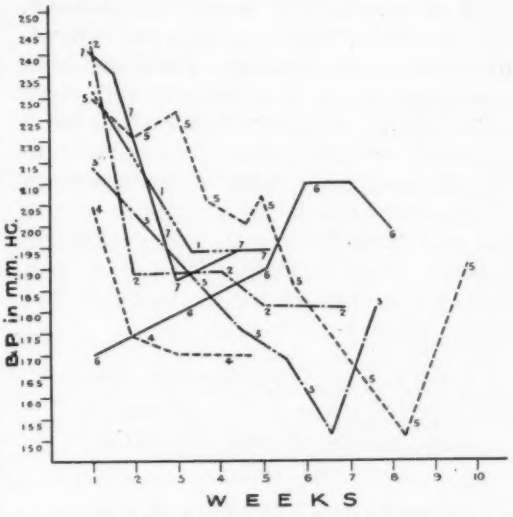

Fig. 1. Ordinate represents weeks of treatment; abscessa height of blood pressure.

	N.	AGE	S.	R.	SYMPTOMS	P.S.P.	N.P.N.	HEART	PERI. ART	URINE	B.P.V.W.n. $KSCNO_2$
1	A.S.	50	F.	N.	Headache.	20-15	37.5	Enlarged	No Sclerosis	0	232-194-4
2	L.M.	46	F.	N.	"	35-15	36.3	"	"	0	244-180-6
3	A.W.	19	F.	N.	Epigastric Oppression	—	—	0	"	0	214-180-7
4	S.J.	42	F.	N.	Headache Dizzy	40-15	37.5	Enlarged	"	0	205-170-4
5	M.H.	45	F.	N.	Epistatis	45-20	46.1 54.4	" SystolicM.	"	0	230-190-8
6	L.J.	40	F.	N.	Chest Pain	10-5	80	Enlarged	"	2% alb.	170-200-7
7	M.W.	34	F.	N.	Headache Dizzy	35-5	34.7	"	"	0	240-195-3
8	B.V.	58	M.	W.	Palp. Insomnia Nocturia	—	36.3	0	"	Sp. gr. 1,000	206-200-28
9	M.F.	63	M.	W.	Dizzy Nocturia	—	—	0	"	0	200-130-15
10	J.T.	62	M.	W.	Headache	62	—	Not Enlarged	"	Few Hyaline casts	192-160-16

The beneficial results were often slower to appear than one would suspect from the previous reports. In none of the cases treated was there any increased tendency to inflammation. In one case there was a severe pruritic exanthema, and the patient died suddenly after an acute respiratory infection with coronary and superior mesenteric thrombosis.

Two cases were refractory—one a case with marked nitrogen retention, the other with no abnormality except hypertension, but in both of these patients the symptomatic relief was striking. The doubling of the dosage of the drug in these refractory cases had no further effect on the blood pressure. Sulphocyanate thus appears to be a drug of some value in the treatment of so-called essential hypertensions and in the mild nephritides with only moderately reduced renal function. The drug is a desirable adjunct in the management and treatment of hypertension.

A PRACTICAL CONSIDERATION OF THE EARLY DIAGNOSIS OF DISEASES OF THE THYROID GLAND.*

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MEMPHIS, TENN.

The purpose of this paper is:

1. To warn of the danger of relying too much upon a metabolism machine for making a diagnosis of a toxic goiter. Nervousness, a rapid pulse and an elevated basal metabolism test do not necessarily means hyperthyroidism. A metabolism machine should be used to verify a diagnosis which has already been made clinically and not to make it.

2. To emphasize the fact that goiter is essentially a problem of the internist. It is true that certain goiters are surgical, but surgery should be resorted to only after a very careful diagnosis has been made. When surgery is necessary the internist should be in charge of the patient to get him ready for surgery. The internist should have a clear conception as to the amount of shock that surgery entails and he should be sure that the patient is able to stand this shock. By the employment of this method of treating the surgical goiter the mortality rate should be one-quarter of one per cent or less. Contrast this with the results of the average surgeon who is losing nearly 5 per cent of his goiter patients.

3. That the diagnosis of diseases of the thyroid gland is very simple when we look upon the problem solely from the standpoint of procedures that have been proven to be thoroughly practical.

The thyroid gland weighs but 45 grams (one and one-half ounces), yet if we may judge of its importance by its blood supply, it must be one of the most important glands of the body for it is said to receive, in proportion to its weight, five and a half times as much blood as the kidneys and thirty-four times as much as the brain. Its principal function is the manufacture of its internal secretion, thyroxin, and the delivery of it to the blood stream. The thyroid gland normally supplies to the blood stream 1.6 mg. of thyroxin per day. Exclusive of the thyroid gland, the normal body contains about 14 mg. of thyroxin at all times. Thyroxin exerts its effect upon every cell in the body, speeding up the processes of oxidation or metabolism in that cell which would go along normally but at a much slower rate without thyroxin. Von Noorden has said: "The thyroid acts on oxidation as a pair of bellows rejuvenates a fire."

If we consider the thyroid gland in terms of production of thyroxin, we can think of disease processes affecting it in three ways:

1. The overproduction of a normal secretion.
2. Underproduction of a normal material.

*Read before the North Mississippi Six County Medical Society, January, 1930.

3. The production of an abnormal secretion.

Such conditions actually occur, the first, in which there is too much of a normal product, is found in the toxic adenomatous goiter; the second, where there is not enough of a normal product, is exemplified in the hypothyroid states; the third, where the product is abnormal, is found in exophthalmic goiter.

It is seen at once that the first important step in the diagnosis of goiter is to determine the presence or absence of hyperthyroidism. If the patient with a goiter, is hyperthyroid he has either an exophthalmic goiter or a toxic adenomatous goiter. On the other hand, if he is not hyperthyroid he has either a non-toxic adenomatous goiter or a colloid goiter.

Diseases of the thyroid gland may be divided, for practical purposes, into nine groups (Plummer):

1. Diffuse colloid goiter.
2. Adenomatous goiter without hyperthyroidism.
3. Adenomatous goiter with hyperthyroidism.
4. Exophthalmic goiter.
5. Myxedema.
6. Cretinism.
7. Myxedema of childhood.
8. Thyroiditis.
9. Malignant diseases of the thyroid.

Abnormal enlargements of the thyroid gland that should be classified as goiter are represented in the first four groups. Thyroiditis and malignant diseases of the thyroid must be considered for they too produce an enlargement of the gland. The gland in these two conditions, however, is of stony hardness. In thyroiditis the entire gland is involved, while malignancies act here as they do elsewhere in the body and invade the surrounding tissues. The recurrent laryngeal nerve is frequently paralyzed by malignant growths.

The clinical record should of course be very complete, but the most important points to be emphasized clearly are three:

1. Has there been a definite and continuous increase in body warmth? This has no reference to the hot flashes so frequently associated with the menopause.

2. Has there been an increase in appetite? It has been definitely shown that a person who is hyperthyroid requires from one to three times as much food as a normal individual.

3. Has there been a loss in weight? There are only two conditions in which there is a loss in weight in spite of an increase in appetite and these are diabetes and hyperthyroid states.

From the standpoint of the physical examination, a great deal of information can be obtained by inspection. The hyperthyroid patient enters your office in a nervous and excited state as if he had run every step of the way. He appears warm and is perspiring. His face is flushed. He sits erect and is alert to everything going on about him. Compare this picture with that of the classic "neuro," who is frequently misdiagnosed as hyperthyroid because of his nervousness. The "neuro" appears fatigued and slouches in his chair as if he can hardly hold himself together. The hyperthyroid patient has a weakness of the quadriceps muscles. This should be tested for by having the patient step upon the step of an examining table or upon a low chair. Tremor and a rapid pulse are relatively unimportant because they are found in so many other conditions. The blood pressure should be taken several times to note if there is a definite increase in pulse pressure. An increase in pulse pressure is a decided aid in establishing a diagnosis of hyperthyroidism.

The one laboratory procedure that is of value is the basal metabolism determination. As has been stated, this test should be used to verify a diagnosis and not make it. The "neuro" who is always filled with fears is

fearful of suffocating while taking this test. The results therefore are nearly always too high at the first or second test, but this type of patient should have several tests made on different days until a true basal rate is obtained.

When it has been definitely determined that the patient is hyperthyroid, he has either an exophthalmic goiter or an adenomatous goiter with hyperthyroidism. The exophthalmic type of goiter produces a symmetrical enlargement of the gland while the adenomatous goiter is nodular and asymmetrical. Bruits are to be heard over the superior thyroid vessels in nearly every case of exophthalmic goiter while the other type never produces bruits. An exophthalmic goiter, according to the clinical record, runs an irregular course with exacerbations and remissions, while the toxic adenomatous goiter runs a perfectly regular course. In an exaphthalmic goiter, exophthalmos occurs in 60 to 80 per cent of the patients while nearly all of them present a definite stare. The eyes are normal in the adenomatous goiter.

If the patient is clearly not hyperthyroid, we again have a symmetrically enlarged gland of the colloid goiter to differentiate from the asymmetrical nodular goiter of the non-toxic adenomatous type.

These colloid goiters are sometimes mistaken for toxic goiters and operated upon. This is particularly likely to occur if the patient is highly nervous or if the colloid goiter is of the vascular type with loud bruits over the thyroid vessels. Such a mistake is entirely unjustifiable since these patients are not hyperthyroid but, on the other hand, frequently show evidence of hypothyroidism.

As has been suggested, if the patient with the colloid goiter is also a neurasthenic, he is more likely to be misdiagnosed as having an exophthalmic goiter and operated upon. The points of importance in the differential diagnosis of the colloid goiter, exophthalmic goiter and neurasthenia should be emphasized again. They all hinge on the presence or absence of hyperthyroidism. Of the three conditions under consideration, weight loss, increase in appetite, and increase in body warmth are noticed only in exophthalmic goiter. The "neuro" is usually too cold and boasts about his poor appetite. Quadriceps weakness is likewise only demonstrable in the patient with exophthalmic goiter. The "neuro" tells you he is weak, but he can't prove it. The pulse pressure is constantly increased in exophthalmic goiter, but is normal in neurasthenia and the colloid goiter. Bruits and thrills are again a characteristic of exophthalmic goiter but are absent in the other two conditions.

Such a discussion of the diseases of the thyroid gland would be incomplete without considering the so-called crises of goiter. Crises are responsible for practically all of the deaths from goiter, and they occur frequently in patients who have not been recognized as being hyperthyroid. Every surgeon can recall a number of patients who, following an operation for some condition other than the thyroid, developed a rapid pulse and then went into a so-called "typhoid state" of stupor which was followed by death. Many of these patients had a mildly toxic goiter which was overlooked in the diagnosis but which flared up following the shock of surgery and produced a highly toxic state that ended fatally. Thyroid crisis should always be thought of, whether a previous diagnosis of a goiter has been made or not, whenever there is a rapid increase in the pulse, an increasing restlessness, vomiting, diarrhea and sweating. As the crisis gets worse the restlessness goes into a stupor and a delirium, the patient's temperature rises even as high as 105° and the skin gets dry and the tongue parched.

A goiter crisis is practically always an avoidable condition and whenever it occurs it is frequently a reflection of discredit upon the physician. However, there is no one who has handled many toxic goiters who has not had this condition to deal with.

A statement that was made in the first part of this paper should again be emphasized. The problem of the treatment of diseases of the thyroid gland belongs rightly to the internist. When the internist sees the necessity for surgery in certain types of goiter he should call in the surgeon, but reserve the right to decide when the patient is in proper condition to undergo surgery. If this team work is carried out between the internist and surgeon, the mortality rate in goiter, including the cases going into crises, should be much less than one per cent.

DIAGNOSIS AND TREATMENT OF ANXIETY STATES.*

D. L. KERLIN, M. D.,

SHREVEPORT, LA.

To the neurologist, diagnosing and treating anxiety states are comparable in frequency to the diagnosing and treating of diseases of the appendix by the surgeon. As an aid in diagnosing this condition let us see what "anxiety state" means. The anxiety state is composed of a true emotion, fear, and a derived emotion, anxiety. In the formation of an anxiety state the true emotion of fear is aroused by a stimulus, which brings into abnormal activity the instinct of flight or the instinct of self-preservation. This stimulus conveys the impression of actual or potential bodily or mental danger to the individual concerned or to any person within the range of the self-regarding sentiment. By this mechanism the desire to escape is aroused together with the emotion of fear. This alone is not sufficient to cause a neurosis; a second factor, anxiety, must be added, and this appears when circumstances arise which threaten to block the escape of the individual, thereby keeping him from attaining a certain ambition or goal. The most common stimuli in civil life which arouse the emotion of fear are fear of unemployment, poverty, illness and fear of anything which will reduce the standard of living. The emotion of fear is aroused not only when the well-being of the individual himself is threatened, but also when the well-being of any dependent is threatened, for these dependents are included in his sentiment of self-regard; in other words they are identified in his own mind with himself, therefore anything which threatens them threatens himself.

Wherever these two powerful emotions are at work in the mind certain signs and symptoms appear which help to make a diagnosis. A thorough examination reveals no organic disease, but the presence of tremor, tachycardia, emotionalist, digestive disturbances, nervousness, insomnia, irritability tendency to worry over trifles and exaggeration of all deep reflexes, present a true picture of a functional disease. These patients present an over stimulated sympathetic nervous system, the stimulus being fear. Often there is definite evidence that the glands of internal secretion are affected through the sympathetic nervous system, and probably most of the symptoms which arise are produced through this mechanism.

When a patient presents these symptoms with an absence of organic disease and mental exploration brings to light the presence of an exaggerated emotion of fear and anxiety, then a diagnosis of anxiety state is justifiable. Another constant diagnostic point which is always present in these cases is a history of a predisposition to nervousness. This predisposition is inherited from one parent or both.

With these two powerful emotions at work in the mind there is a constant waking conflict between the sentiment of self-regard (duty and self-respect) and the emotion of fear. These patients attempt to side-track this emotion by trying to forget it, by taking trips, by talking themselves out of it, but usually to no avail. In desperation they finally appeal to a physician for relief from this unrelenting monster, fear.

In our opinion treatment of these conditions is very important. Our reason for

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thinking so is that they are rather common and it is imperative that the patient be relieved, thereby restoring him to his normal efficiency. From our observation of these conditons, I would judge that the individual who is unfortunate enough to develop a well marked case that his efficiency in the commercial world is reduced some thirty to forty per cent.

In the severe cases, we advise complete isolation, preferably in a hospital where every detail of treatment can be personally directed. If the conditon is not so marked, the treatment can be successfully carried out in the home or even while the patient is attending to his daily routine, providing all severe mental and physical strain is eliminated. The most important phase of the treatment once you have instituted rest and isolation is mental exploration, thereby determining just what factors have been at work in the patients life to produce this condition of anxiety state. Once you have this knowledge the mechanism of the development of the neurosis should be carefully explained to the patient, thereby giving him an insight into his condition which is an invaluable aid to a speedy recovery.

The value of this is easily seen when we call to mind the fact that the patient's mind is burdened with many fears concerning subjective symptoms, viz: tachycardia, indigestion, nervous cough, etc. These symptoms lead him to think he has some disease such as intestinal or organic heart disease, and until they are explained satisfactorily treatment is of no avail.

There are certain drugs which we have found very useful in conjunction with the above named measures. To relax the individual, thereby placing his nervous system in a state of rest, we have found sodium luminal invaluable. We use it in doses of one-fourth to one-third of a grain three times daily over a period of from one to several months. As I have mentioned before, in the severe cases, there is definite evidence of disturbed endocrine function which leads to a gradual functional exhaustion of the nervous tissue throughout the body. This condition is no doubt brought about through faulty metabolism and nourishment of the nervous tissue with the disturbed endocrine secretion as the background. To relieve this condition sodium cacodylate, grs. 5, daily intravenously, over a period of a month or more is very satisfactory.

As an illustration of this condition, I shall cite the following cases:

Case 1. A young woman, aged 33 years, gave a history of having been of a nervous temperament all of her life. She stated that her mother's people were rather neurotic. She had always been very healthy, having had no serious illness and no operations. She had been married for six years and had a healthy child three years of age. On questioning her as to just what factors had precipitated her present condition, I found that her husband had been pronounced tubercular three years before. He was sent west, and she remained at home with her mother. Here we have the stimulus for arousing the emotion of fear, in that her husband who was identified with her sentiment of self-regard was threatened by a terrible disease.

As time went by there seemed no immediate escape from this painful situation for he remained out west for three years. She could see no way out of the situation for there was a possibility that he might have to be there the remainder of his life, which fact added our second factor, anxiety, thus forming a well defined case of anxiety state. Six months before his return, she began to suffer with indigestion, headaches, insomnia, palpitation, etc., and on his return in March, 1929, she came to me for relief of these symptoms. She told me that she had heart disease and a fear of losing her mind. She had no insight into the cause of her condition. After assuring myself that my diagnosis was correct and substantiating it by laboratory examinations, including a urine examination, a complete blood picture, and Wassermann, all of which were negative, I followed out the plan of treatment which I have already outlined in this paper. The fact that her husband had returned in much better condition, made the chances of her early recovery very good. It has been several months now since treatment was completed and recovery is assured.

Case 2. A young lady aged twenty-one years. Family history revealed that her mother and her mother's people were rather neurotic. No serious illnesses of adult life, and only one operation, viz: removal of tonsils and adenoids during childhood. She gave a history of having been in trainig as a nurse for the past two years. While in train-

ing in January 1929, immediately following an attack of influenza she developed a mild case of tuberculosis. She was advised to give up her training, and was confined to the Pines Sanitorium for about six months, that is from January to July 1929. On leaving the Pines she was assured by Dr. P. R. Gilmer that her chest condition was satisfactory. At this time Dr. Gilmer realizing that the girl was not taking the proper attitude towards her illness, referred her to me. She presented the following nervous symptoms: mental and physical exhaustion, insomnia, depression, nervous indigestion, fainting attacks, a marked phobia of tuberculosis, and was running a mild temperature from 99-99½° F.

Neurological examination revealed a fine tremor of the upper extremities, hyperactive reflexes upper and lower, with an anxious expression on her face, characteristic of severe anxiety states. Her laboratory examinations were negative, including urinalysis, complete blood picture and Wassermann. As a result of these examinations, I had the necessary factors to make a clear cut case of a severe anxiety state. We have the stimulus for the arousing of the emotion of fear when she developed tuberculosis. The element of anxiety was added when she felt in her own mind that she was not getting any better, and therefore was unable to resume her training. Due to the fact that she had planned to go home at this time, I was unable to institute any definite plan of treatment other than to explain to her the mechanism of her condition. She went home and remained until February 1930, and at that date returned to her training. She reported to me on February 25 for treatment. She had even less insight into her condition than the previous case, and as a result, I had to go over with her again and again, the mechanism of the condition before she began to improve. She showed very little improvement until April 1, and at present is making steady progress. I feel sure within the next three months that she will make a complete recovery, that is if she continues her treatment.

Case 3. This case is of special interest due to the fact that the exciting factor or the stimulus for arousing the emotion of fear is the same as that in the so-called traumatic neuroses. The mechanism in the causation of the traumatic neuroses and anxiety states is the same. The only difference between the two is caused by the fact that so often the desire for compensation enters into the traumatic neuroses. An anxiety state when properly treated gets well, while a traumatic neurosis fed by the desire for compensation and pending litigation, defies all treatment and only gets well after litigation is settled. If treatment is instituted in cases of traumatic neuroses before the idea of compensation enters the mind of the patient, then you are dealing with a simple anxiety state and a great majority of the cases get well under six months.

A white male age 42 years, while in the employ of an oil company had been severely burned about the face and hands by an explosion of a fire box in 1927, two years past. He was only away from his job a few days, then returned and worked steadily up to the time that he was referred to me March 18, 1930. He presented the usual family history in this type of case, viz: that on maternal side his people were highly nervous, and also had four brothers all rather neurotic. He considered himself of a nervous disposition. He presented the following symptoms, which dated back two years to the time of his injury; attacks of depression in which he cries without cause, irritability, dizziness, nervous indigestion, marked exhaustion especially of mental faculties, tachycardia, and a phobia of insanity and losing his job. He complained that his condition had become so bad that he couldn't work any longer without help, and had lost weight from 170 pounds to 143. He hadn't worked for three weeks when he was referred to me.

Neurological examination revealed the usual findings, viz: anxious expression, tremor of hands and increased deep reflexes. A complete blood picture. Wassermann and urinalysis were negative.

As in the previous cases we have here the factors which go to make an anxiety state. The explosion acted as the stimulus to the emotion of fear, and his continued illness with a marked phobia of losing his job, added the second factor, anxiety. Treatment was instituted as outlined previously. He began to improve after the first week and returned to work within three weeks from beginning of treatment. His gain in weight has averaged three pounds per week. At present date he has been under treatment five weeks and active treatment has been finished. Practically all of his symptoms have subsided, and he should be completely well within two months.

SUMMARY.

1. Anxiety state is a frequent condition and is too often dismissed by the physician as nervousness.

2. One suffering from this functional nervous disease does not have full use of his mental faculties, therefore his efficiency is decreased in direct proportion to the severity of the disease.

3. Mental exploration, whereby the patient is given a clear understanding of his condition, is the keynote to a successful handling of the case.

4. This class of patients often falls into the hands of the various cults, and this would rarely happen if correct treatment had been instituted by the first physician who saw the patient.

CASE REPORTS AND CLINICAL SUGGESTIONS

SOME CASES OF BLOOD DYSCRASIAS*.

E. L. GREEN, M. D.,

CARPENTER, MISS.

Hippocrates in ancient times and Sir James McKenzie in modern times have taught us the invaluable lesson of making minute observations and accurate interpretation of symptoms if we would understand disease.

So while casting about for some clinical material that might be of interest to the members of this Society, I decided to report briefly two cases of two different diseases that generally present as a symptom a rather marked leukocytosis, consisting of a relative and quantitative increase of the lymphocytes and small mononuclears.

Speaking of leukocytosis in general, as far as my limited information goes, it seems that so far nothing very definite is known of the origin, function, and manner of destruction of the formed elements of the blood stream. We say, for instance, that in sepsis, pneumonia, meningitis, appendicitis, etc., we have a high leukocytosis, and that in some other diseased states such as typhoid fever, malaria, uncomplicated influenza, measles, mumps, pellagra, pernicious anemia, agranulocytic angina, etc., we have commonly a diminution of the white blood cells—or leukopenia.

All we can at present say is that these blood phenomena are the result of some supposed etiological agent acting upon the bone marrow, spleen, liver, lymph glands and other tissues representing the so-called reticuloendothelial system.

So, as in dealing with any other biological pnenomena, it becomes necessary to collect and correllate many cases presenting similar clinical symptoms, including the blood picture, before we can attach any diagnostic importance to such findings.

Inasmuch as the mononucleosis referred to in some of these cases occurs in children, it is proper to state at the outset that it is considered normal to have a slight leukocytosis and a decided relative increase in the mononuclear elements in children. Personally, I have found it convenient to follow a suggestion of Dr. Bloom of New Orleans. He said, "It is my experience that the blood counts in children have been similar to the findings of Rabinowitsch. In brief remember the following:

"(1) Under five years—the neutrophil count is what the mononuclear is in adult life, 20 per cent to 30 per cent.

(2) Under five years—the small mononuclear count is what the neutrophil count is in adult life, 60 per cent to 70 per cent.

"(3) Over five years—the neutrophils increase and the small mononuclears decrease, so that by the tenth year the adult count is reached.

"(4) The total white count in children averages 6500 to 8000."

Inasmuch as acute lymphatic leukemia and so-called infectious mononucleosis, or glandular fever, usually present a mononuclear leukocytosis, and as each generally appears in children or young adults, I shall undertake to report an instance of each disease, together with the blood findings.

Case 1. White male, aged 25 years, electrical worker, native Mississippian, but for past ten years had worked for an electrical company in Schenectady, N. Y. Came back home to spend last Christmas, and came to my office December 29. He stated that he had not been feeling very well for the past few days, and that although

*Read before the Central Medical Society, Jackson, Miss., April 15, 1930.

he did not suppose that much was the matter with him, he would like to have an all-round physical examination. He stated that for the past few days he tired more easily than he thought he should, and that while out hunting the day before he had noticed that in walking uphill he had breathlessness.

Past History. Had the usual diseases of childhood, but had not been sick in bed since. Denied specific infection. Had never had typhoid fever nor malarial attacks since he had lived in the North.

Family History. Father and mother still living and in good health. Two brothers and two sisters living and in good health. None dead.

Physical Examination. A rather pale looking young man, with gray-blue eyes and light hair. Weight stationary at 135 pounds. Height 5 feet 7 inches. Pulse 90. Temp. 101. Blood pressure 110/75. Tonsils apparently not much diseased. Teeth in good shape. Examination of heart, lungs, and kidneys negative, except a mitral murmur that I supposed to be hemic. Blood sent for Wassermann; negative report.

Blood. Noticed that when getting drop of blood that the blood had a rather whitish appearance. Hemoglobin (Tallquist) 65 per cent. A blood count showed the highest white count I have ever seen. Whites, 1,000,000. Reds, 3,500,000. A blood smear, when stained by the Giemsa method, showed that most of the leukocytes were lymphocytes. The spleen and liver were only slightly enlarged. A careful search for adenopathy showed only a very few slightly enlarged glands. Here was an accidental discovery of what subsequently proved to be a rather acute lymphatic leukemia. It is somewhat unusual I suppose for this to occur at 25 years of age, as the acute form of the trouble is nearly always seen in children up to 15 years of age. He came to my office several times with very little of importance to narrate, except that his symptoms were rapidly becoming more aggravated. I advised him to return to New York, and I understood that they in turn sent him on to Europe to no avail. He died in about three months after I first saw him, from hemorrhages and general lymphocytic hyperplasia.

The next case I report is one of so-called glandular fever, which often shows a high leukocytosis, resembling in many respects lymphatic leukemia.

Since this disease was first mentioned by Pieffer in 1889, a number of epidemics have been reported in the literature, and it is no doubt a much more common disease than is generally recognized. I have in the past few weeks seen several cases of this trouble, and although I did not make blood tests in all of them, where I did do so, it was certainly suggestive of something out of the ordinary.

Case 2. White male child, 6 years old.

Past History. Had measles and mumps when 3 years of age. Probably had several attacks of chills and fever last year, and at times has had slight digestive disorders. Had tonsils removed two years ago.

Family History. Unimportant.

Present Illness. Began January 7 of this year. Was unable to attend school for past three days, and had been at home and in bed without any particular complaint except fever. The mother stated that this fever was of the remittent type. The highest she had noted was 103-2/5 degrees. He had considerable nausea and vomiting. Bowels constipated.

Physical Examination. A rather robust looking child, presenting no very serious objective nor subjective symptoms. The temperature was 103 degrees. Pulse 120. Examination of heart, lungs and kidneys negative on this and on the three succeeding days. The only manifest trouble was an adenitis, which caused swelling and tenderness of the preauricular, post cervical and anterior cervical glands. He looked very much as if he had mumps, but the parotids were apparently normal. On the third day after I saw him he developed a similar trouble on the right side of his neck. Subsequently the inguinal glands were similarly involved. I gave his mouth and throat several examinations and could find nothing abnormal. The fever continued, and at the end of nine days I had a Widal made with nega-

tive report. I also got a negative tuberculin skin test. At this stage of the trouble I made a blood smear, and was very much surprised to find an exceptionally high leukocytosis. But in this case the whites were not so consistantly of the mononuclear variety as in some of the others which I saw. There was also a quantitative increase of the polymorphs. The disease ran its course in about twelve days; the glands subsiding without suppuration and, although a subsequent examination of the blood showed some increase of the whites, and he was rather weak and prostrated, he eventually made a good recovery and went back to school.

I saw several of these cases in the school which this child attended; and all of them were affected very much as this child, but in none of the others was it as severe as in this child, usually running its course in from one week to ten days. In all the rest there was a very marked mononucleosis of the blood.

In closing I will state that it seems useless for me to bore you with the points to be noted in the differential diagnosis of these diseases, as you can get that from the literature. There is just this point that I wish to leave with you. Both infective mononucleosis, or glandular fever, and acute lympatic leukemia are probably more frequent than generally supposed. If you happen to overlook a case of glandular fever sometimes, because you do not take the time to make a blood smear, and call it a case of mumps or something else, there is no particular harm done your patient, as this is not a serious disease.

On the other hand, the leukemic condition is very serious indeed, and all kinds of complications will soon overtake your patient; and they are subsequently said to die of hemophilia, purpura hemorrhagica, Vincent's disease, anemia and sprue without the original trouble being diagnosed.

RIGHT SIDED DIAPHRAGMATIC HERNIA.*

(Report of a Case.)

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New Orleans.

It is not my intention to go into any lengthy dissertation upon the subject of diaphragmatic hernia, but only to bring out the salient features of this condition that are necessary to a thorough understanding of the subject, with special reference to a more general consideration of its existence in the differential diagnosis of cases presenting upper abdominal or thoracic symptoms.

DEFINITION.

A diaphragmatic hernia may be described as the protrusion of any abdominal viscus through the diaphragm into the thoracic cavity. From a rather extensive survey of the literature, it would seem that almost any abdominal organ might be found protruding through the diaphragm, and with regard to the diaphragm itself no point seems to be exempt, although, there are points of predelection which we find more frequently involved than others. Considering the diaphragm as a whole we note that by far the greater number are found on the left side, the ratio being about eight to one The reason for this becomes very obvious when one considers the anatomy of the upper abdomen with the liver fitting snugly under the right diaphragm and thus protecting it against any undue pressure at any one point, while the left side is less protected. Should there be any openings or weakened points in the left side of the diaphragm, whether from malformations or relaxed normal openings, it is very easy to understand how the smaller organs might be forced through as a result of an increased intra-abdominal pressure.

There are numerous classifications in the literature, but that described by Richards

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seems to be the one most generally accepted. His classification is as follows:

1. True hernias (those with hernial sac):
   a. Congenital (present at birth).
   b. Acquired. Through natural openings (mostly esophageal) and elsewhere (traumatic and non-traumatic).
2. False hernias (those without sac):
   a. Congenital.
   b. Acquired (all traumatic).
3. Eventration of the diaphragm (not a true hernia).

As has been stated by Menville, this classification does not differentiate between those cases in which a congenial weakness may have been present at birth and those in which the hernia did not manifest itself until later in life. It must also be remembered that it is highly probable that some of those considered as congenital might well have been produced by the trauma incident to a difficult delivery, or an operative delivery such as extraction following a version where it is not always possible to get the cervical dilatation that is desired.

HISTORY.

It is well at this time to mention a few historical points in that it so beautifully illustrates the value of the roentgen-ray in these cases. Ambrose Paré, in 1610, is credited with having described and reported the first case, and from that time until 1912 Griffin was able to find 690 cases recorded in the literature and only 15 of these were recognized during life. Since that time, however, an increasingly larger number have been reported, as will be seen in the tabulations from the Mayo Clinic where 27 cases had been found up to 1927. In this clinic it has been estimated that diaphragmatic hernia was found in about 1 in 18,000 patients examined. From the ratio previously given, based on this statement, approximately 1 in 144,000 would be found on the right side.

SYMPTOMATOLOGY.

It would be difficult, if not impossible to formulate any one group of symptoms that might be considered in any way pathognomonic of diaphragmatic hernia. However, certain cardiac and respiratory embarrassment is at times manifested by these patients as a result of pressure by the encroaching viscus. These symptoms may range in severity from a mild dyspnea to a severe air hunger. There is at times a marked tachycardia with or without precordial pain. In the past few years, I have had the opportunity to observe two cases which very aptly illustrate the two extremes one might encounter. The first was that of a new born infant, seen while I was an under-graduate interne, who shortly after delivery developed a severe cyanosis with almost a cessation of respiration. Feeling at the time that there was probably an atalectasis, the child was spanked and made to cry, after which its normal pink color returned. An auscultatory examination of the chest at this time revealed the abscence of breath sounds on the left side. Within the next hour the cyanosis returned, but this time did not respond as well to the measures used previously. A skiagraph of the chest was then made and this revealed numerous coils of intestines occupying the left side of the thorax with almost a complete collapse of the left lung. The heart was pushed considerably to the right. The baby succumbed a few hours later and we were fortunate in obtaining a post-mortem examination which revealed very beautifully a large opening in the left side of the diaphragm with the stomach and nearly all of the small intestines within the thoracic cage. The lung, of course, was collapsed. This case illustrates the severe symptoms, while the other, the one presented at this time, is that of a young girl sixteen years who has led a very active life with a segment of transverse colon in the right side of the thorax. Her symptoms have been of a rather mild character with only an occasional attack of pain in the upper abdomen,

associated with some nausea, and at times vomiting. There has been a slight dyspnea and some palpitation associated with some of these attacks. It is conceivable that numerous symptoms might be manifested, depending of course on the contents of the hernial sac, or the parts protruding through the diaphragm. In other words, in cases involving the stomach, for example, one would expect to find symptoms referable to some gastric disturbance such as pain after eating with nausea or vomiting. So, in hernias containing other abdominal organs, we would expect, in a like manner, to find symptoms pointing to pathological or functional changes in the organs involved.

DIFFERENTIAL DIAGNOSIS.

The many conditions that could be considered from the viewpoint of a differential diagnosis are too numerous to mention, but I wish to enumerate a few of the most important ones. It is plainly seen that those conditions producing symptoms referable to the upper abdomen must be taken into consideration, notably pyloric stenosis, gastritis, peptic ulcer, gastric carcinoma, and diseases of the gall bladder. Disease of organs in other parts of the abdomen, as for example the colon or appendix, which we know produce upper abdominal symptoms at times, must be eliminated. On the other hand, the many diseases of the heart and lungs which are manifested by cyanosis and dyspnea must be taken into consideration.

DIAGNOSIS.

While the symptomatology and physical findings in a certain case might lead one to suspect the presence of a diaphragmatic hernia, I am sure that most of us will rely on the aid given by a flouroscopic examination with an opaque meal, or a barium enema to make our diagnosis. After all, the fluoroscopic examination is of paramount value, and will be of necessity used to confirm the diagnosis in those cases even suspected of being present clinically.

TREATMENT.

Medical treatment is at best only paliative and surgery must be the treatment of choice if any benefit is to be secured for the patient. It is conceivable that in some of the new born cases spontaneous closure of the opening in the diaphragm might take place, but I have been unable to find any statistics to corroborate this supposition.

The surgery of diaphragmic hernia has been described by many men in this country, notably among whom are C. H. Mayo, G. L. Carrington, Willy Meyer, P. E. Truesdale, Carl A. Hedblom, and Harrington. There are three methods of approach, namely: 1. trans-pleural, 2. abdominal, and 3. a combination of the two. After the method of approach is chosen, the next problem that presents itself is a reduction of the hernia. It is here that C. H. Mayo added a valuable step to the technic when he advocated the employment of a stiff rubber tube which he introduces into the hernial sac to prevent the formation of a vacuum, which according to a recent publication by him is one of the causes of the difficulty experienced in reducing the contents of the sac. After reduction has been affected, the defect in the diaphragm is then repaired following the technic of plastic surgery in other parts of the body.

CASE REPORT.

This case, that of a white female, aged 16 years, was first seen June 11, 1929 and the following history was obtained:

Chief Complaint: Vomiting of blood streaked material.

Present Illness: Began two days previously with pains below each costal margin which were sharp in character and associated with nausea but no vomiting. The pains subsided after the first day but the nausea persisted. Two days later, about one hour after breakfast she had a severe vomiting spell which lasted about one hour. The vomitus was described as being rather copious and consisting of a greenish material mixed with what looked like orange juice and streaked with blood.

Past History: Has had vomiting spells since infancy. One of these spells at the age of 2 years was very severe and was diagnosed at that time as an acidosis. An appendectomy was per-

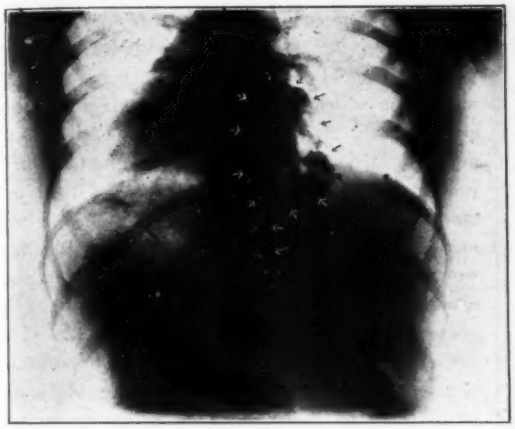

Plate 1. PA View of Thorax and upper abdomen six hours after the ingestion of a barium meal showing a segment of colon above the diaphragm on the right side. Arrows indicate that portion which lies above the diaphragm. Note the constriction at the point of entrance through the diaphragm.

formed in March, 1927, and a tonsillectomy in September 1928.

Menstrual History: Menstruation began at the age of 14 years, was regular, 28 day type and 5 or 6 days in duration. She had a slight dysmenorrhea for a few years but has not suffered with this since the appendix was removed. She has occasional pains in the lower left quadrant of the abdomen but these have never been severe enough to cause her to seek medical advice. The last menstruation was normal and began May 20, 1929.

Social History: Has been attending public high school regularly and has made good grades in her studies until the past year. Studies dancing, plays tennis, and leads the life of the average girl of her age.

Family History: Father 40 years of age, living and well. Mother 32 years, living and well, but highly nervous and excitable. No brothers or sisters.

Physical Examination: The patient was a well developed and well nourished rather robust white female of about sixteen years of age, in apparently good physical condition and not acutely ill. She was somewhat prostrated from the exertion caused by the severe vomiting spell through which she had just gone. The skin was rather moist but not unduly warm and showed no lesions. There were no glandular enlargements.

Head: Scalp was normal. Eyes showed a moderate injection of the superficial vessels. Ears, nose, and throat were grossly negative. The teeth were in good condition and the oral hygiene was good.

Neck: Was negative.

Thorax: Was bilaterally symmetrical. Expansion was free and equal. There was no dullness or other abnormal changes on percussion. Asculatory signs were normal. The heart was normal except for a slight tachycardia.

Abdomen: Was normal in contour and showed a small scar in the lower right quadrant. There was no tenderness on palpation and no masses.

Extremities were normal.

A small duodenal tube was passed back through the nose and into the stomach. This revealed no residue. The stomach was lavaged with a solution of sodium bicarbonate and the tube removed.

No diagnosis was made at this time.

On June 13, two days later, the mother brought the patient to my office and requested that I make a complete study of the case. This was done and nothing additional was found except by rectal examination the uterus was found to be in second degree retroversion with no adnexal pathology.

A fluoroscopic study was advised and accordingly, two days later the patient was given a barium meal on a fasting stomach at 7:30 in the morning. Six hours later, a fluoroscopic examination was made which revealed a segment of what appeared to be colon above the right diaphragn obliterating the cardio-hepatic angle. A second meal of barium and water has then given which showed the stomach to be normal in size, shape, and motility. Skiagraphs were taken and those are the ones shown you here tonight. Several days later, a barium enema

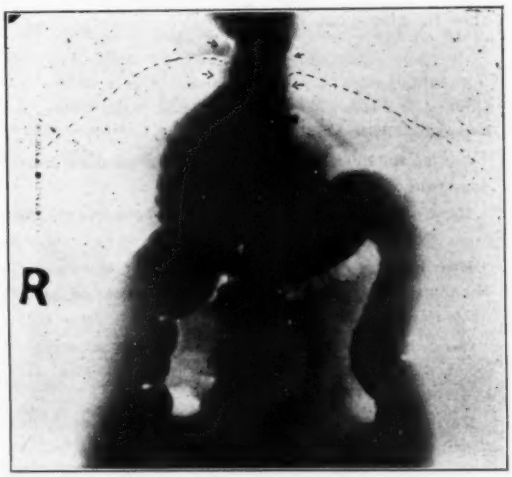

Plate 2. Visual'zation of the colon by means of a barium enema. The dotted lines indicate the approximate level of the diaphragm and the arrows the constricted portion of the transverse colon where it passes through the d'aphragm. The plate was not sufficiently high to show the upper portion of the herniated colon.

SEGMENT OF COLON ABOVE DIAPHRAGM
DIAPHRAGM
POINT OF CONSTRICTION IN COLON WHERE IT PASSES THROUGH THE DIAPHRAGM
LUMBAR SPINE

Plate 3. Visualization of the colon in the lateral view by means of the barium enema. This shows very clearly the segment of colon above the diaphragm and proves very conclusively its anterior location. Note also how beautifully it demonstrates the constriction in the colon. Diaphragm and herniated colon indicated by arrows.

study was made by Dr. Leon J. Menville who reported a diaphragmatic hernia on the right side just lateral to the right border of the heart and situated anteriorly, and containing a segment of the proximal end of the transverse colon which showed a constriction at the point of entrance through the diaphragm.

Operation was not permitted by the parents and I understand that the patient is now receiving medical treatment the results of which I am unable to give you.

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DISCUSSION.

Dr. Leon J. Menville (New Orleans): Dr. Oliphant should be complimented upon the able manner in which he has presented his very interesting paper. Previous to the advent of the roentgen-rays, the diagnosis of diaphragmatic hernia was in nearly every instance made at the post-mortem table. The roentgen-rays offers a valuable aid in such a diagnosis provided that we utilize every modern method possible in such examinations. Both the fluoroscopic and radiographic examinations are necessary and the patient examined in several different positions. Not only the barium meal method should be employed but in every instance a barium enema should be given the patient for a study of the intestinal tract. Having established a diagnosis of diaphragmatic hernia of the colon it is very important to determine whether it is anteriorly, centrally or posteriorly situated. Such information will prove valuable to the surgeon if the case become a surgical one.

I do not wish to give the impression that the roentgen-ray is always positive in the diagnosis of diaphragmatic hernia. This is not so, as we encounter at times certain difficulties which might be well to mention. In the instance of a paradiaphragmatic purulent process. In the instance of strangulation when the bariumized meal will fail to pass through the opening. Also when the hernial sac contains solid viscera.

It was my good fortune to examine radiologically the case just presented by Dr. Oliphant with the following findings:

Stomach—Position, size, shape, motility, peristalsis, mobility and flexibitly normal; negative for any organic disease.

Duodenum—Negative.

Colon—Twenty-four hour examination showed the mid portion of the transverse colon above the right diaphragm into the right chest. This examination was followed by a barium enema. The bariumized fluid entered the colon with normal pressure and rapidly filled the colon up to a point near the mid portion when the enema stopped for a moment and showed a point of constriction at this time. The enema then took an upward shoot through an opening in the diaphragm and

was clearly visualized above the right diaphragm. On the return flow the enema was again retarded at the diaphragmatic opening and another constriction was observed. Skiagrams were made in different positions to determine the position of the hernia with the conclusion that we were dealing with a right sided diaphragmatic hernia anteriorly situated.

Dr. J. Birney Guthrie (New Orleans): It would add very greatly of interest if some of the surgeons would tell us something in regard to the operative technic in diaphragmatic herniae.

I want to ask if phrenicotomy had ever been performed preliminary to an operation of this sort, and if phrenicotomy were done, would it be possible to restore the phrenic nerve afterwards? Even if this last were impossible it might be more important to have the diaphragm restored intact than the phrenic nerve preserved in its integrity.

Dr. T. H. Oliphant (Closing): There are just a few additional remarks I wish to make regarding diaphragmatic hernia at this time. The subject has been very carefully gone over in various parts of this country as I have mentioned before in the main body of my paper. I intentionally omitted going into a detailed description of the operative technic involved in the repair of this type of hernia, feeling that the time allotted to me was not sufficient to deal at any great length on this phase of the subject. However, in answer to a question as to the operative technic, I wish to say that, in my opinion, the procedure of choice, and the one which should always be undertaken first, is the repair through the abdominal cavity. A high abdominal section should be made, the line of incision being directed in such a manner as to give the best exposure. This might be made on the right or left side, but in the case presented tonight, where the herniation is on the right side near the mid-line, anteriorly, a high mid-section extending from the xyphoid to the umbillicus would probably give the best exposure. Then, if gentle traction on the proximal portion of the herniated bowel is not sufficient to affect reduction, a stiff rubber tube, as suggested by C. H. Mayo, should then be inserted into the hernial sac which will prevent the formation of a vacuum, and allow the herniated loop of bowel to be returned into the abdominal cavity. In event that these measures fail to affect a reduction, it most likely means that there are adhesions of the viscus to the sac, and if these cannot be freed from below, a resection of one or two ribs will become necessary and the sac reached from above, opened, and the contents returned from above into the abdominal cavity. A plastic repair of the defect in the diaphragm then becomes necessary. This can be accomplished from below in cases where reduction can be affected from that route, or from above if it has become necessary to use this approach. It is at times difficult to approximate the edges of the defect in the diaphragm, and it is here that phrenicotomy as referred to by Dr. Guthrie is employed to relax the diaphragm in order to make this approximation possible. I might mention here that I cannot see the inadvisability of merely making an alcoholic injection of the phrenic here after it has been exposed instead of actually severing the nerve. Regeneration would then take place within three to six months, whereas if the nerve is severed, regeneration would not take place unless the cut ends of the nerve were very carefully approximated. In further answer to Dr. Guthrie, I might say that phrenicotomy is frequently resorted to in cases that are strangulated and this procedure alone might suffice to release the herniated viscus and allow it to drop back into the abdominal cavity.

Dr. Gessner mare the statement that he does not see the necessity for operating these cases at all. In answer to him, I wish to call your attention to the fact that these hernias become strangulated just as hernias in other parts of the body, and require operative intervention at times to save the life of the patient. In other cases the symptoms of obstruction which may be of any degree of severity often times justify the surgeon in undertaking a repair of this type of abnormality. After all, when one considers that in these cases we are working in an aseptic field in the absence of infection we would expect to have a very favorable prognosis, especially in so far as life and death are concerned. Surely our mortality rate should be very little higher than in other laporotomies.

FRACTURE OF THE TRANSVERSE PROCESS OF THE FIFTH LUMBAR VERTEBRA.

JULIUS L. LEVY, M. D.,

CLARKSDALE, MISS.

In reviewing the literature the author finds that fracture of the transverse process of the fifth lumbar vertebra is rather rare and constitutes only 5 per cent of all fractures of the vertebra of this region.

Most writers recognize that these fractures result from both direct external violence and indirect internal violence (muscular action). One or more processes may be broken. It is usually unilateral.

P. A. Quaintance reviews the literature for the past 15 years on fracture of the transverse process of the lumbar vertebra. Thirty three cases are reported, in two of which fracture undoubtedly resulted from indirect muscular action. In 42 per cent of the cases of this series, fracture unquestionably was due to direct external violence. The transverse processes of the second, third and fourth lumbar vertebra constituted 85 per cent of the total number of fractures in this series. In 27 per cent of the 33 cases, associated fractures of the pelvis bones, the bodies of the lumbar vertebra or the ribs occurred. Hyperthrophic arthritis was present in 39 per cent of the patients.

Here I would like to report a case of fracture of the transverse process of the right fifth lumbar vertebra which I think is very interesting due chiefly to the fact that it was caused by the patient lifting the tail of an aeroplane (muscular action) and in the author's review of the literature there is no other similar case reported where this was the caustive factor.

Case—G. R., white male, aged 28 years, prominent lawyer, was admitted March 17, 1930, for pain in the small of his back. He gave a history of lifting the tail of an airplane a week previous. During the interval of the accident and the time I first saw him, he stated that he had seen two physicians and a chiropractor, but instead of improving he became worse, being unable to sleep at night due to excruciating pain in the lower part of his back. Examination showed pain at the seat of fracture which radiated to the groin and abdomen, there was extreme tenderness and bulging over the fifth lumbar vertebra, crepitus could not be elicited by deep pressure. When the patient attempted to pick up an object from the floor he bent like one with Pott's disease. Roentgen-ray examination showed a fracture of the right transverse process of the fifth lumbar vertebra. Treatment—Back was strapped from the left anterior superior iliac spine to the right anterior superior iliac spine posteriorly extending from the sacrum to the third lumbar vertebra. Sedatives were given to facilitate relief of pain. Course—Patient was kept in bed for 10 days then allowed out of bed with back strapped. This was left on for three weeks, and then another roentgenogram was taken and it showed firm union of the two fragments.

The author believes that even marked lateral displacement of the fragment is of less consequence than vertical displacement, in which the spinal nerves may be compressed and cause primary symptoms or may become included in the callus and cause secondary symptoms. The condition should be considered in all cases in which there is a contracture of the sacrolumbar mass of muscles with pain at the level of the transverse process. In some cases the fragment or a vicious callus compresses the root of a spinal nerve and produces traumatic lumbago or sciatic neuralgia. The prognosis depends more on the nature of the fractures than on their number, vertical displacements being more serious than transverse ones.

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AMERICAN HOSPITAL ASSOCIATION MEETING.

The week beginning October the twentieth, will see in New Orleans the starting of the annual convocation of the American Hospital Association. This meeting will last for five days and during this period many problems relative to hospital management will be brought up which should be of interest not only to those whose primary duties are the care and running of hospitals and institutions, but also to those who hold positions on the medical and surgical staffs. The topics to be presented will deal not only with the cost per day per patient problem, the type of refrigeration best suited for a hospital and comparable questions, but there will also be round table sessions on the relation of the staff to the hospital, the teaching of interns, the obtaining of autopsies and similar subjects of considerable interest to the medical profession as a whole.

The general plan of the meeting is to hold open sessions at night. In the morning there wil be round table discussions and in the afternoon section meetings. The round table discussions and the general meetings will probably be of particular interest to physicians. In the section meetings every phase of hospital life, administration, construction, and finance, will all be elaborated.

This meeting will be not only national in its scope but also international, as delegates from many of the Central and South American republics will be present, as well as delegates from Canada. The broad range and the diversity of appeal of this annual meeting of the hospital association is indicated by the fact that there are usually registered for the session between 3,500 and 4,000 individuals.

RECOVERIES FROM LEPROSY.

The National Leprosarium at Carville is one of the outstanding institutions of its kind in the world, and of course is the only home for lepers in the United States. The institution is run magnificently; it has most adequate corps of devoted sister nurses in attendance and the medical personnel is in every way competent to study and to treat leprosy. Any publication that bears the imprint of the Medical Staff of Marine Hospital No. 66 has upon it the stamp of authenticity and authority. Denny, Hopkins and Johansen* report on the patients that have been treated in the past ten years at Carville. They note that 65 patients have been discharged from Carville, and

*Denny, O. E., Hopkins, R., Johansen, F. A.: Recoveries from leprosy, U. S. Pub. Health Report, 45:667, 1930.

give complete full clinical histories of these patients. Since the report there have been eight additional lepers paroled. It is of some interest to note the types of lesions that occurred in these paroled patients and to observe the character of the treatment that they received. Twelve of the paroled individuals had the nodular type of leprosy on admission, and they spent an average of 5.8 years in the institution. Twenty-six of the 65 patients that are reported upon had mixed types of leprosy and had spent an average period of 5.5 years in the leprosarium. Twenty-seven of the paroled patients had the anesthetic type on admission and they were kept in the hospital an average period of 9 years.

The great majority of the patients that have been paroled received chaulmoogra oil in some form or another. The largest number of them received it by mouth; a few received it by intramuscular injection, or received the ethylesters of the oil. A few of the patients received other forms of drug therapy such as mercurochrome intravenously or Fowler's solution by mouth. In addition to this more or less specific therapy there was also employed physiotherapy, psychotherapy and other forms of non-drug treatment. The report of these observers should be of tremendous encouragement to the leper. One of the most difficult and trying features of the disease is the profound mental depression from which so many of the unfortunates suffer. Knowledge that leprosy can be cured and is being cured should offer to them a tremendous hope for the future. It certainly will encourage them to persist actively and conscientiously in observing the therapeutic measures that are suggested to them by the resident and consultant staff of the leprosarium.

BANQUET TO SENATOR RANSDELL.

One of the most stimulating and interesting tributes ever paid to a Louisiana Legislator was consummated Saturday, July 12, in New Orleans. Under the auspices of the Louisiana State Medical Society and the Orleans Parish Medical Society a banquet was given to the distinguished senior Senator from Louisiana in appreciation of what he had done for medicine and for science in the United States. Somewhat over 400 participated in the banquet, and distinguished speakers, some of whom came from a long distance, joined in paying homage to this splendid type of representative of the people of the State. Senator Ransdell in his speech of gratitude, spoken with felicity and charm, called attention to the fact that he was responsible for three great pieces of medical legislation. The establishment of the leprasarium at Carville, the initiation of measures to eradicate Texas fever, and now the most outstanding piece of health legislation, the establishment of the National Institute of Health. This institute will greatly increase the facilities of the United States Public Health Hygienic Laboratories through government aid, and it will be in a position to receive individual donations from interested individuals; parenthetically it might be observed here that already a distinguished chemist has established a Fellowship which is to be the third important feature of the new institute. It can be readily appreciated that with the resources of the United States back of it, with the resources that will be gradually enhanced as a result of private contributions, the initial steps have been taken to establish one of the greatest health institutes in the world. The United States Hygienic Laboratories have been second to no institution in this country in regard to the experimental work and science achievements that have emanated from it. What it will accomplish with these increased resources, resources not only of money but of scientists and qualified students of medicine, can not be foretold, but at least the possibilities may be surmised: eventually the world's greatest center of research in medical and allied subjects. This institute has been established through the efforts largely of Senator Ransdell: All tribute and honor to this great man.

HOSPITAL STAFF TRANSACTIONS

FRENCH HOSPITAL.

The regular meeting of the French Hospital Staff was called to order on Friday May 30, 1930, at 8:00 P. M. Dr. M. J. Lyons presiding. The minutes of the last meeting were read and approved. Those present at the meeting were: Drs. Ane, Anderson, C. J. Brown, Freidrich Harris, Jamison, Lorio, M. O. Miller, M. J. Lyons, S. Lyons, Palermo, Menville, Montelepre, Nothacker, Powe, Overbay, Sharp, Stadiem, Silverman, Smith, Tardo, Wallbillich, and Zander.

Dr. Zander gave the report representing the patients discharged during the month of April, 1930. He also gave the report of deaths for that month. These cases were not discussed as Dr. Harris suggested that they were not sufficient material for discussion as the patients were in the hospital but a very short time, and none were operative cases.

Dr. Jamison then spoke on "Recent Views on Nephritis." He divided nephritis into three classes: nephrosis, nephritis, and arterio-sclerotic kidney. He discussed nephrosis particularly, dividing it into lipoid, amyloid, kidney of pregnancy, and bichlorid kidney. The principal symptoms of lipoid being edema, pallor, eye symptoms, absolute lack of findings in urine with the exception of albumin, no anemia, and increased cholesterol. Dr. Jamison next discussed the newest treatment which consisted of a high protein diet low in fats, giving of thyroid from 15 to 40 grains, and the other usual treatment of swelling, purgation, and limitation of salt and water. The paper was then discussed by Drs. Harris, Overbay, Silverman, and Menville.

Dr. Lyons announced that this was the last meeting until October. There being no further business the meeting adjourned.

E. L. ZANDER, M. D., Secy.

VICKSBURG SANITARIUM AND CRAWFORD STREET HOSPITAL.

Staff Meeting, July 10, 1930.

Abstract: Congenital Heart Disease.—Dr. Guy C. Jarratt.

Case No. 1:

Patient—White female child aged 10 months, seen on June 26, 1930.

Chief Complaint—"Blue spells."

Present Illness—Mother stated that at birth and since child has had blue finger nails and togue and some blueness of lips. For past five months, blueness has been deeper and at times an indigo color, especially noticed when crying or following exertion. When quiet and asleep only finger nails and lips show blue color. Past History—Essentially negative except for above. Family History—Father living and well, 48 years old; mother living and well, 34 years old; no other living children. Two miscarriages prior to birth of this child,—one at six months and one at six and one-half months. No tuberculosis in family. Birth History—Normal cephalic delivery; no difficulty with resuscitation; no convulsions; some cyanosis as stated above. Nursed normally within first few few days of birth; no excess crying.

Physical Examination—Development apparently normal; well nourished. Child crying and with generalized indigo color, most marked in lips and fingers. When child became quiet and when asleep, deep color disappeared but there was still blueness of finger nails, lips, and tongue. Head—Anterior fontanelle open two cm.; soft and depressed. Ears, nose, neck, and throat, negative. Chest—Lungs, no pathology found. Heart, apex at left fourth interspace; no enlargement found; no thrills; loud systolic murmur heard over whole of precordium, loudest at left third interspace, also heard in back and axilla, not transmitted into neck; pulmonic second sound normal. Abdomen—No viscera or masses palpated. Extremities—Negative except for cyanosis; no clubbing of fingers. Genitalia—Normal. C. N. S.—No pathology found. Blood—Hemoglobin, 107 per cent; erythrocytes, 5,328,000; leukocytes, 14,800; differential leukocyte count; small lymphocytes, 46 per cent, large lymphocytes, 17, large monouclears, 15, polymorph. neutrophiles, 22; no malaria found. Wassermann and Kahn tests on blood of mother, negative; not obtained on child. Roentgenogram—Slight dilatation of right side of heart.

Summary—With the history of cyanosis from birth and more marked for past five months, the deep indigo color on examination when crying, the finding of a murmur as above described, and the slight polycythemia, I believe that this child has a congenital heart lesion, the type of which I will not attempt to say for there is no certain criterion

by which we can know definitely the type of existing lesion. Little is offered in prognosis and treatment.

Case No. 2:

Patient—White male, aged 22 months.

Chief Complaint—Fever; fretful, anorexia.

Present Illness—Onset day before with high fever and loss of appetite; very fretful and irritable. No nausea, vomiting, or diarrhea. Was exposed to another child with severe sore throat four days previously. Past History—From birth until child was about nine months of age had been a very difficult feeder. Mother states that when child was three months of age, he had a sudden spell, lasting only a few seconds, in which he became very pale with some blueness of lips and tongue. When six months of age, began to vomit most of feedings and continued this for about two months. It was noted that during this period child had blueness of lips and tongue. The attending physician became suspicious of thymus enlargement, a roentgen-ray examination of chest showed a large mediastinal shadow, thought to be due to enlarged thymus. Roentgen-ray treatment of thymus was instituted with relief from above symptoms. Since that time mother states that she has noticed some blueness as described above, but child has otherwise continued in good health, gained in weight, and developed as a normal child should. Family History—Eight months' child; normal cephalic delivery; short labor; child blue and difficult to resuscitate. Child did not nurse well for the first five days of life; cried continuously. No convulsions or cyanosis.

Physical Examination—General appearance is that of a well-developed and nourished child 22 months of age, acutely ill. There was a blueness of mild grade of the lips and tongue, most marked upon crying; no blueness of the nails. Head—Normal. Ears—Some redness and swelling of right drum; left normal. Nose—Mucoid discharge. Throat—Tonsils small and acute inflamed; pharynx acutely inflamed. Chest—Lungs, normal; Heart, no enlargement found upon physical examination; soft systolic murmur over mid-precordium, not transmitted to the neck, but heard in the back; no thrills; pulmonic second sound normal. Physical examination otherwise essentially negative.

Summary—This child was suffering from an acute upper respiratory infection with otitis media. Roentgenogram of chest revealed a large cardiac shadow, the base being especially enlarged; no evidence of enlarged thymus. In comparing the radiographs made a year ago, we see that the cardiac shadow is similar, that is, a large heart, especially at the base, with no overlapping thymic shadow. With this in mind, along with the history and the physical findings, I believe that this child has a congenital heart lesion. The type I will not attempt to say.

AN UNAPPRECIATED CAUSE OF CHRONIC BRONCHITIS—Following the bronchographic examination of a large number of patients suffering from so-called chronic bronchitis, evidence of bronchial dilatation was found in more than 90 per cent of the cases. He says that cases of chronic bronchitis lasting over a period of months or recurrent attacks of acute bronchitis should be given the advantage of a bronchography. The introduction of iodized oil into the tracheobronchial tree is of distinct therapeutic value not only in those cases of chronic bronchitis and recurrent attacks of acute bronchitis but also in the cases of definite bronchiectasis with large amounts of foul sputum. The method used for introducing the iodized oil into the tracheobronchial tree should be simple; it should not require a great deal of technical skill; it should be easy to carry out, harmless and not unpleasant for the patient. This is best accomplished by the passive technic. Ochsner, A.: J. A. M. A., July 20, 1929.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

HOSPITAL NOTICE.

Dr. Jos. R. Morrow, Chairman of the National Hospital Day Advisory Committee, requests that hospitals and all others who participated in the celebration of the National Hospital Day this year to send in their material for the contest or the award to be given for the best demonstration of display. This material will be shown in a booth at the convention in New Orleans next fall.

NOTICE OF POST GRADUATE COURSES.

Dr. S. W. Thayer has sent to the Journal notice of a course in cardiology to be given by Dr. Antonin Clerc, in the Ward Rabelais, Hospital Lariboisiere, Paris, which course will consist of ten lectures and practical demonstrations. The lectures start at 11:00 o'clock in the morning, and the afternoon sessions begin at 3:00. The full address of the organization conducting these courses is on file in the Journal Office. Any practitioner interested may receive this and additional information on application.

Surgeon J. G. Wilson, of the United States Public Health Service has been relieved from duty at New Orleans Quarantine Station, and assigned to duty at Atlanta, Ga., as Chief Medical Officer of the United States Penitentiary.

The United States Civil Service Commission announces an open competitive examination in the position of Assistant Bacteriologist. Examination is to fill the vacancy in the Clinical Laboratorian of the Veterans' Bureau Hospital at Palo Alto, Calif. The entrance salary is from $3,200 to $3,700 a year.

WEEKLY HEALTH INDEX.

During the week ending June 21 in the City of New Orleans there were 150 deaths, with a death rate of 18.2. In the corresponding week of last year, there were 166 deaths with a rate of 20.2. The week ending June 28, 1930 had a very marked jump in the total number of deaths. These increased to 190 deaths with a death rate of 23.1, the highest record in any City in the United States except Memphis. The previous and corresponding week of 1929 the death rate was 16.5 with a total number of deaths of 136. Apparently a goodly portion of people who have died around this time in the City of New Orleans chose this particular week in which to expire. The death rate of the week preceding was low and the succeeding week ending July 5, 1930, the rate was lower than it has been for a very long time. There were 129 deaths with a death rate of 15.7, which included 14 children under one year of age. The corresponding week of 1929 showed a death rate of 16.9 with a total of 139 deaths.

RESOLUTIONS ON THE DEATH OF DR. ABRAMSON.

The Staff and friends of the North Louisiana Sanitarium are sad because the Grim Reaper has removed from our midst our friend and brother, Dr. Louis Abramson.

Dr. Abramson was a friend to the poor and rich alike, for he gave freely of his skill to all.

Although the North Louisianua Sanitarium was founded by Dr. Abramson and now stands as a monument to his foresight, his greatest and most lasting monuments are the scores of healed bodies and comforted souls which he administered to during his life time.

Dr. Abramson was skilled as a surgeon and modest with all his learning. He was a good citizen, a faithful husband, a just father and a cultured gentleman.

No wordss of encomium can add to his luster, for his works stand as a shining example of one who loved his fellowmen and one who did his duty to the best of his ability. Surely the love and appreciation of his patients and friends shall last as a hallowed memory.

We shall miss his kindly intercourse, his wisdom, his skill and his friendship.

The Staff of the North Louisiana Sanitarium bow their heads in grief and share the sorrow of the bereaved family. However, we are consoled with the knowledge that his works and his kindly spirit shall not die and that we shall find him in the City not made with hands.

We recommend that a copy of these resolutions be sent to Dr. Abramson's family, one inscribed on the minutes of the Staff of the North Louisiana Sanitarium, and that one be sent to the Tri-State Medical Journal, the New Orleans Medical & Surgical Journal, and to each of the Shreveport Daily Papers.

JNO. T. CREBBIN, M. D.,
O. C. RIGBY, M. D.,
A. P. CRAIN, M. D.,
Committee.

NEW ORLEANS HOSPITAL COUNCIL MEETING.

The regular monthly meeting of the New Orleans Hospital Council will NOT be discontinued during the summer. The August meeting will be held at the U. S. Marine Hospital, Thursday, August 21, at 7 P. M.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

L. S. Lippincott, Editor

H. L. Rush, Associate Editor *D. W. Jones, Associate Editor*

FROM OUR PRESIDENT.
SECTION CHAIRMEN.

Not infrequently there comes to the President's desk a letter containing comments or suggestions, generally the former. Both are welcome. Some of the criticism has been favorable, much has been extremely caustic; some constructive, much destructive; all is read with interest and more is invited. But so much of it contains real meat, that it has been decided to occasionally pick an unusually interesting one and discuss it publicly, rather than save it for the presidential address, where the audience, out of politeness, must sit and take it and has no "come-back." Perhaps by so doing there may be aroused some interest, some idea, perhaps even some animosity, out of which something worth while will be developed. Besides the editor, who is a persistent chap and something of a slave-driver, insists that there should be a "President's Column," and the easiest way to manage him is to obey his orders.

The first criticism picked for comment came early in the year, while the section chairmen were being chosen, and from reference to the desk memoranda it appears that it came in from nine separate sources. It is to the effect that the places of honor and distinction have not been sufficiently distributed, but that there is a tendency to keep them too much within a particular group.

There is, of course, one general answer to this; that men who show a willingness to work take the jobs and get the honors that go with them. That is the case in any organization such as ours, but ours is fairly large, and contains many able men and good workers. If from among them there has been developed a small group who have "hogged the works," and if so it has been due to thoughtlessness, we should know it and break it up, for the object of the association is the development of all its members.

The chief instance cited was in the appointment of chairmen of sections. It was contended that we have too many "repeaters" in these positions. Now a Section Chairmanship is primarily a job, at least it should be so considered by the man who holds it, but it is also a position of no small honor and power, and these things should be divided as far as possible. If the criticism is just, it deserves consideration.

The investigation covered the past twelve years. In the twelve years there have been forty-six chairmen. One man has held the chairmanship of the same section three times—three times in twelve years.

Eight men have held chairmanships twice each. So that nine men have held forty-one per cent of the chairmanships. Of the forty-six chairmanships, eight were held by ex-presidents.

Two ex-presidents held chairmanships twice each.

So that six ex-presidents furnished seventeen percent of the chairmanships.

At two meetings out of the twelve, half the chairmanships were filled by ex-presidents.

I fear that the critics have made out a case, especially in the matter of the ex-presidents. With all due deference to these gentlemen, it may well be contended that a man who has held the presidency has no need for further honors. In justice to them, it must be also contended that they looked on it, not as an honor to be gained but as a job to be done; but it should have been remembered that some other member, who had not had so much in the past, would have considered it as quite an honor and would probably have done just as good a job. The association is not so small that, in twelve years, nine men have to fill forty-one per cent of the chairmanships or that over seventeen per cent have to be held by ex-presidents. We may well remember that Jno. McGraw has twice deliberately broken up a pennant-winning team in order to build for the future, and his results haven't altogether proved a failure.

So let's try to remember this in the future and give others a chance. Next year, unless something happens to him in the meantime, the honorable ex-president's club will take in, as usual, a new member. They may lynch him for this exposé considering it a heresy, but if they do not, he solemnly promises that he will never accept a section chairmanship, though he is obliged to confess that he has always rather coveted that of the eye, ear, nose and throat section. And let me add that there are no "repeaters" this year.

E. F. HOWARD, M. D.

PHYSICIANS REGISTERED.

Licenses for the practice of medicine in Mississippi were issued to 43 physicians by the State Board of Health on June 30, following examinations held in Jackson.

Applicants taking examinations in 12 subjects and receiving passing grades were: Drs. John Asa Rogers, Hattiesburg; John A. Milne, Hazelhurst; Cecil J. Vaughn, Ft. Payne, Ala.; Archie L. Gray, Fulton; Thos. B. Abney, McComb, and Miles S. Love, negro, Hattiesburg.

Applicants taking examinations on the last two years of medical work and successful were: Drs. William M. Adams, Ripley; Eugene S. Busby, Hattiesburg; Samuel B. Caruthers, Duck Hill; R. H. Christian, Smithville; Robert L. Donald, Quitman; Hubert Flurry, Big Creek; W. W. Hall, Shelby; Charles F. Henley, Prairie; James L. Holland, Meridian;; E. V. Jobe, Derma; George L. Kaiser, Natchez; Sol. S. Kaufman, Vicksburg; Joseph L. Kellum, Guntown; Nathan F. Kendall, Jackson; Esther M. Kirk, Fearn Springs; Levi B. McCarthy, Jackson; Dick C. McCool, Canton; Thomas H. Oliphant, New Orleans; Gladys Ratcliff, McComb; David M. Segrest, Post Gibson; Isaac G. Shelby, Rosedale; Frank A. Stuart, Jr., Jackson; Van Carlton Temple, Hattiesburg; C. F. Varner, Senatobia; Homer A. Whitington, Bude; Grandville Hand, Philadelphia.

Eleven physicians from other states were given licenses through reciprocity as follows: Drs. Guy C. Jarratt, Tennessee, practicing at Vicksburg; Samuel F. Gandelman, Louisiana, Stephenson; Franklin T. Bower, Virginia, Hattiesburg; Herbert S. Phillips, Missouri, Marshall county; Samuel F. Strain, Tennessee, Sanitarium; Frank R. Leeds, Illinois, Gulfport; Wallace E. Hoffman, Illinois, Gulfport; George S. Daly, Louisiana, McComb; Harvey S. Herrick, Vermont, South Mississippi; Guy R. Jones, Louisiana, Picayune; John E. Quidor, Louisiana, Vicksburg.

Those passing examinations on the first two years of medical work were: A. H. Applewhite, Columbia; John H. Barrow, Canton; Francis S. Dixon, Natchez; F. A. Donaldson, Oakland; E. L. Guilbert, Electric Mills; T. E. Hall, Shelby; Donald S. Hall, Vicksburg; G. Yerger Hicks, Vicksburg; F. D. Hollowell, Jr., Yazoo City; L. H. Jobe, Jr., Derma; E. C. Majure, Madden; R. C. Massenhill, Brookhaven; Allie Helen McCune, West Greene, Ala; D. H. Moore, Quitman; A. V. Murry, Ripley Hal S. Raper, Columbus; A. L. Thaggard, Carthage; E. A. Thorne, Holly Springs; Bryant R. Wilson, Philadelphia; R. J. Jones, Philadelphia; W. R. Trapp, Jr., Nettleton, and R. H. Frederick, Red Bay, Ala.

COURSE IN PUBLIC HEALTH.

Dr. F. Michael Smith, Director of the Warren County Health Department, has recently completed an eight months' course in public health nursing and procedures given to the nurses and technicians of the hospitals of Vicksburg. This is the second year that the course has been given and the grades obtained by the students taking the course show much interest and the value of such teaching. It is to be hoped that the course may be given each year in the future.

Dr. and Mrs. George M. Street, Vicksburg, attended the meeting of the American Medical Association in Detroit in June.

SOUTH MISSISSIPPI MEDICAL SOCIETY.

Dr. J. H. Newcomb, Secretary of the South Mississippi Medical Society, reports that the regular quarterly meeting of the Society was held at the Nurses' Home of the South Mississippi Charity Hospital, Laurel, on June 12. The meeting was called to order by the President, Dr. C. C. Buchannan and prayer was offered by Dr. A. M. Harrelson.

After the reading of the minutes of the preceding meeting by the Secretary, the society held a short business session at which Dr. A. B. Harvey, Hattiesburg, became a member of the society by demit, and Drs. Guy R. Jones, Picayune, and G. E. Godman, Poplarville, by application.

The following scientific program was then carried out:

1. The Conservative Handling of Acute and Chronic Para-Nasal Sinusitis.—Dr. Fern Champenois, Hattiesburg.

Discussed by Drs. B. T. Robinson, L. B. Hudson and C. C. Buchannan. Dr. Champenois closed.

2. Inversion of the Uterus.—Dr. George D. Mason, Lumberton.

Discussed by Dr. H. L. McKinnon. Dr. Mason closed.

3. Urological Problem of Interest to the General Practitioner.—Dr. Julian T. Bailey, Meridian.

Discussed by Drs. A. B. Harvey, R. H. Foster, C C. Hightower, G. E. Eddy, J. E. Green, and A. M. Harralson. Dr. Bailey closed.

4. Anhydremia.—F. G. Riley, Meridian.

Discussed by Drs. J. E. Green and B. T. Robinson. Dr. Riley closed.

5. Abruptio Placentae. — Dr. J. S. Gartlin, Laurel.

Discussed by Drs. H. L. McKinnon and J. E. Green. Dr. Gatlin closed.

WINONA DISTRICT MEDICAL SOCIETY.

Dr. E. W. Holmes, Secretary of the Winona District Medical Society, reports that a meeting of the Society was held at Winona, in the basement of the First Baptist Church, on July 9.

The scientific program included:

1. Anesthesia (Motion Picture.)—Dr. John C. Culley, Oxford.

Discussion opened by Drs. T. W. Holmes and R. M. Stephenson.

2. Boils.—Dr. S. S. Caruthers, Duck Hill.

Discussion opened by Drs. A. K. Avent and E. C. Elmore.

3. Treatment of Acidosis.—Dr. Gilruth Darrington, Yazoo City.

Discussion opened by Drs. J. P. T. Stephens and A. M. Doty.

4. Secondary Anemia in Childhood.—Dr. N. C. Wormack, Jackson.

Discussion opened by Drs. F. L. Hill and S. L. Bailey.

WOMEN'S AUXILIARY.

Mrs. Henry C. Boswell, Sanatorium, reports that the first amount raised and sent in for the Preventorium Fund was a check for $10.00 sent by the Harrison-Stone-Hancock Auxiliary. It is to be hoped that other auxiliaries will promptly follow suit, as this is a much needed and greatly appreciated offering.

CHICAGO MEDICAL SOCIETY SUMMER CLINICS.

Dr. N. S. Davis, III, Secretary of the Chicago Medical Society extends an invitation to the physicians of Mississippi to attend the Summer Clinics of the Chicago Medical Society at Cook County Hospital, Chicago, August 11 to 22. The officers of the Chicago Medical Society together with the members of the staff of the Cook County Hospital have arranged this series of clinics in answer to the demand for post-graduate clinical work for the general practitioner. Such clinics have been held each year since 1926 and have been attended by physicians from 28 states and from Canada.

The number who may attend the clinic is limited by the size of the amphitheater. Therefore, registration in advance is necessary. Admission to the clinics will be by card only. Registration is open to all members in good standing of the American Medical Association and its component societies. A registration fee of $10.00 is charged to cover the expense of organizing the clinics. Clinics will be held simultaneously in the medical and surgical amphitheaters, except that the pediatrics clinics will be held in the Children's Hospital and the demonstrations in pathology and laboratory technic will be held in the morgue. Exhibits in fresh pathology has become an established feature in connection with the clinics. Beside instruction may be arranged. Evening lectures by physicians not on the hospital staff will be given in connection with the courses on the subjects of heart, obstetrics, surgery, pediatrics and physiology.

A complete schedule of the clinics, showing the subjects and the physicians in charge of each, together with further information may be obtained from Dr. Davis at 185 North Wabash Avenue, Chicago.

GOLF TOURNAMENT.

Dr. Oscar Dowling, Director of Health, Brown's Wells Health Hotel, has proposed a golf tournament to be held during August or such months as may seem best, between the physicians of Louisiana and Mississippi. Dr. Dowling feels that there are enough golf enthusiasts in the two states to make a championship meeting most interesting and such a tournament could be repeated year after year.

If you golfers feel well towards this proposition, please communicate with Dr. Dowling at Brown's Wells.

COMMUNICABLE DISEASES.

The report of the Bureau of Communicable Diseases of the Mississippi State Board of Health for the month of May, 1930, shows an increase in typhoid fever from 29 cases in April to 54 cases in May. Dr. F. J. Underwood, State Health Officer, is repeating his warning of further increase this summer unless the physicians of the state make a conscientious effort to see that every person receives prophylactic immunization. In addition to the lives to be thus saved and the morbidity to be prevented we should all be interested and eager to wipe typhoid from the list of preventable diseases in our state. This should

be a matter of pride for the comparison of efforts of other states as well as for the good of humanity.

It is interesting to note that for May, 1930, physicians reported 5,772 cases of malaria and 2,440 cases of dysentery. One can only wonder how many of those great numbers were actually proven by demonstration of the infecting organisms. There is no doubt that Mississippi is being immeasurably injured every year by statistics going over the country showing so many cases of malaria and dysentery. To many physicians who conscientiously endeavor to check their diagnosis, the number of positive reports each month seems altogether too high. The State Hygenic Laboratory makes examinations for malaria and dysentery without charge. Should we not make an effort this year to prove our reports?

CENTRAL MEDICAL SOCIETY.

Dr. W. L. Hughes, Secretary of the Central Medical Society, reports that the regular meeting of the Society was held on July 15. Dr. Mark S. Boyd, in charge of malaria control work, was the speaker of the evening and presented "The Malaria Control Program of the State Board of Health." This program is featuring individual reports of all cases of malaria as a means of localizing the areas of infection and insuring greater efficiency in handling the malaria problem in Mississippi.

The society was honored by an unofficial visit from the President of the Mississippi State Medical Association, Dr. E. F. Howard, Vicksburg. Other visitors were Drs Leon S. Lippincott, Missippi Editor of the New Orleans Medical and Surgical Journal and Guy C. Jarratt, Vicksburg.

It was reported that Dr. J. C. Armstrong, Jackson, died on July 3, of cardio-renal disease. In his death, the Society lost one of its most loyal and beloved members.

It was announced that due to the vacation period, no staff meetings would be held during July and August at either the Baptist Hospital or the Jackson Infirmary; and that the Central Medical Society would not meet in August.

VICKSBURG SANITARIUM.

The regular monthly meeting of the staff of the Vicksburg Sanitarium and Crawford Street Hospital was held on July 10. Dr. Guy C. Jarratt presented two special case reports of congenital heart disease. Selected radiographic studies were demonstrated as follows: Fracture of neck of the femur; fracture of neck and head of radius and upper end of ulna; suppurative pleurisy; pregnancy (2 cases.)

Dr. George M. Street made a report of the recent meeting of the American Medical Association, at Detroit; and Dr. L. S. Lippincott made a report of the recent meeting of the American Society of Clinical Pathologists, at Detroit.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY.

An interesting meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at the Y. M. C. A., Vicksburg, July 8. The scientific program included the following:

Streptococcic Sore Throats.—Dr. E. F. Howard, Vicksburg. Discussed by Drs. E. H. Jones, F. M. Smith, and I. C. Knox.

A Few Peculiar Cases.—Dr. G. W. Gaines, Tallulah, La. Discussed by Drs. E. F. Howard and W. H. Parsons.

Dr. D. W. Jones, Councilor, was present and briefly addressed the Society.

Dr. C. C. Applewhite, Jackson, of the staff of the Mississippi State Board of Health, discussed the activities and upkeep of the Warren County Health Department. Resolutions were adopted by the Society endorsing the work of the department.

Dr. Guy C. Jarratt, Vicksburg, was elected to membership.

Dr. E. F. Howard, President of the Mississippi State Medical Association addressed the Society in regard to the membership of the State Medical Association and called attention to Article II of the Constitution, which states that the purpose of the Association is "to federate and bring into one compact organization the entire medical profession of Mississippi."

At the request of the Disaster Committee of the Local Chapter of the American Red Cross, the following members of the Society were appointed to make up the Medical Aid Committee

to co-operate with the Disaster Committee in time of emergency: Drs. L. S. Lippincott; P. S. Herring; G. P. Sanderson; J. A. K. Birchett, Jr., and J. S. Ewing.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

MINUTES.

Section on Surgery.

Tuesday, May 13, 1930, 10:00 A. M.

The meeting was called to order by the Chairman, Dr. H. R. Shands, Jackson.

Dr. R. D. Kirk, Jr., Tupelo, read a paper entitled, "Treatment of Acute Peritonitis." Discussed by Drs. J. F. Armstrong, Jackson; C. C. Hightower, Hattiesburg; John C. Culley, Oxford; J. K. Avent, Grenada; E. H. Galloway, Jackson; V. D. Philpot, Houston; A. Street, Vicksburg; R. H. Foster, Laurel, and in closing by Dr. Kirk.

Dr. Willard Bartlett, St. Louis, Mo., read a paper entitled, "Surgical Mortality; Its Meaning for the Operator." Discussed by Drs. John Darrington, Yazoo City; J. P. Wall, Jackson; Whitman Rowland, Memphis, Tenn.; A. Street, Vicksburg; J. Shelton Horsley, Richmond, Va.; W. N. Jenkins, Port Gibson; Julius Chrisler, Jackson; A. G. Payne, Greenville, and in closing by Dr. Bartlett.

Dr. H. R. Shands, Jackson, read the Chairman's Address, entitled, "Surgical Diseases of the Spleen."

Dr. E. E. Benoist, Natchez, read a paper by Dr. C. T. Chamberlain, Natchez, entitled, "Amytal as an Anesthetic."

Dr. John C. Culley, Oxford read a paper entitled "Controllable Spinal Anesthesia."

The papers of Drs. Chamberlain and Culley were discussed by Drs. E. H. Galloway, Jackson; E. E. Benoist,, Natchez; Arthur J. Porter, Memphis, Tenn.; J. K. Avent, Grenada; L. D. Dickerson, McComb; Willard Bartlett, St. Louis, Mo.

Adjournment.

MINUTES.

Section on Surgery.

Tuesday, May 13, 1930, 2:30 P. M.

The meeting was called to order by the Chairman, Dr. H. R. Shands, Jackson.

Dr. A. G. Wilde, Jackson, read a paper entitled, "Plastic Surgery About the Orbit." Discussed by Drs. L. W. Long, Jackson; H. R. Fairfax, Brookhaven; F. H. Hagaman, Jackson, and in closing by Dr. Wilde.

Dr. Augustus Street Vicksburg, read a paper entitled "Carcinoma of the Stomach." Discusse by Drs. A. Street, Vicksburg; E. C. Parker, Gulfport; Gilruth Darrington, Yazoo City; H. A. Gamble, Greenville; W. W. Crawford, Hattiesburg; C. C. Hightower, Hattiesburg, and in closing by Dr. Street.

Dr. F. H. Hagaman, Jackson, read a paper entitled, "Fractures of the Femur." Discussed by Drs. T. E. Ross, Hattiesburg; John C. Culley, Oxford; and in closing by Dr. Hagaman.

Dr. Gilruth Darrington, Yazoo City, read a paper entitled, "The Diagnosis and Treatment of Ruptured Duodenal Ulcer." Discussed by Drs. S. W. Johnston, Vicksburg; E. C. Parker, Gulfport; Otis Beck, Greenville; R. D. Kirk, Tupelo; and in closing by Dr. Darrington.

Adjournment.

MINUTES.

Public Session.

Tuesday, May 13, 1930; 8 P. M.

The meeting was called to order by Dr. Lourance J. Clark, Vicksburg, president of the host Society.

Rev. Gordon M. Reese, Vicksburg said the invocation.

Mayor W. J. Hossley, Vicksburg, made an address of welcome on behalf of the City of Vicksburg.

Dr. Laurance J. Clark, Vicksburg, made an address of welcome on behalf of the Issaquena-Sharkey-Warren Counties Medical Society. Dr. R. Curtis Smith, Drew, made the response to the addresses of welcome.

Dr. H. A. Gamble, Greenville, made the President's Address, entitled "The Relation Existing Between Organized Medical and the Public."

Dr. J. Shelton Horsley, Richmond, Va., delivered the Annual Oration, entitled "Carcinoma of the Stomach."

Adjournment.

MINUTES.

Section on Hygiene and Public Health.

Wednesday, May 14, 1930, 9:00 A. M.

The meeting was called to order by the Chairman, Dr. Hardie R. Hays, Jackson.

Dr. Hardie R. Hays, Jackson, read a paper entitled, "The Control of Venereal Diseases in Mississippi with Competent Treatment by the General Practitioner." Discussed by Drs. D. J.

Williams, Gulfport; H. H. Haralson, Vicksburg; L. B. Austin, Rosedale; W. A. Dearman, Gulfport; and in closing by Dr. Hays.

Dr. T. W. Kemmerer, Jackson, read a paper entitled, "Flocculation Test for Syphilis: Its Value." Discussed by Drs. F. M. Smith, Vicksburg; L. S. Lippincott, Vicksburg; Mr. C. A. Parmalee, Jackson; Dr. Hardie R. Hays, Jackson; and in closing by Dr. Kemmerer.

Mr. C. A. Parmalee, Jackson, read a paper entitled "Hookworm Disease and Infestation." Discussed by Drs. D. J. Williams, Gulfport; W. D. Beacham, Hattiesburg; H. F. Garrison, Jackson; and in closing by Mr. Parmalee.

Dr. F. J. Underwood, Jackson, read a paper entitled "Full Time Health Work in Mississippi." Discussed by Drs. L. B. Austin, Rosedale; W. W. Crawford, Hattiesburg.

Adjournment.

MINUTES.

Section On Eye, Ear, Nose and Throat.

Wednesday, May 14, 1930, 2:30 P. M.

The meeting was called to order by the Chairman, Dr. C. A. McWilliams, Gulfport, Miss.

Dr. H. R. Fairfax, Brookhaven, read a paper entitled "Headaches of Nasal Origin." Discussed by Drs. George A. Adkins, Jackson; L. S. Gaudet, Natchez; and in closing by Dr. Fairfax.

Dr. W. Lauch Hughes, Jackson, read a paper entitled "Corneal Ulcers." Discussed by Drs. A. G. Wilde, Jackson; L. S. Gaudet, Natchez; W. L. Little, Wesson; George P. Sims, Gulfport; and in closing by Dr. Hughes.

Adjournment.

MINUTES.

Section on Medicine.

Wednesday, May 14, 1930, 3:15 P. M.

The meeting was called to order by the Chairman, Dr. G. Y. Gillespie, Jr., Greenwood.

Dr. L. J. Clark, Vicksburg, read a paper entitled "Precordial Pain." Discussed by Drs. Whitman Rowland, Memphis, Tenn.; and in closing by Dr. Clark.

Dr. S. L. Brister, Jr., Greenwood, read a paper entitled "Upper Left Abdominal Tumor Mass in Children, and Some Points in Differential Diagnosis." Discussed by Dr. S. L. Brister.

Dr. J. H. Musser, New Orleans, read a paper entitled "Some Observations on Gastro-Intestinal Disease."

Dr. J. D. Simmons, Gunnison, read a paper entitled "Paranasal Sinus Disease in Children." Discussed by Drs. J. W. Gray, Clarksdale; G. L. Arrington, Meridian.

Dr. C. W. Patterson, Rosedale, read a paper entitled "Colitis." Discussed by Drs. J. G. Archer, Greenville; Whitman Rowland, Memphis, Tenn.; J. H. Musser, New Orleans, La.; E. R. Nobles, Rosedale; Augustus Street, Vicksburg; and in closing by Dr. Patterson.

Adjournment.

MINUTES.

Section on Medicine.

Thursday, May 15, 1930, 9:00 A. M.

The meeting was called to order by the Chairman, Dr. G. Y. Gillespie, Jr., Greenwood.

Dr. N. C. Womack, Jackson, read a paper entitled "The Use of Whole Blood in Pediatric Work." Discussed by Drs. D. W. Jones, Jackson; W. H. Frizell, Brookhaven; John C. Culley, Oxford; R. C. Basinger, New Orleans, La.; L. W. Long, Jackson; and in closing by Dr. Womack.

Dr. James S. McLester, Birmingham, Ala., read a paper entitled "The Cardiac and Other Disabilities of Advancing Years."

Dr. J. W. Gray, Clarksdale, read a paper entitled "A New Foreign Protein Which May Be Used Without the Usual Reaction." Discussed by Drs. P. W. Rowland, Oxford, and H. A. Gamble, Greenwood.

Dr. G. L. Arrington, Meridian, read a paper entitled "Acidosis and Alkalosis." Discussed by Drs. R. E. Wilson, Cartersville, Ga.; R. C. Basinger, New Orleans, La.; L. F. Boyd, Memphis, Tenn.; L. W. Long, Jackson; and in closing by Dr. Arrington.

Dr. F. M. Acree, Greenville, read a paper entitled "Epidemic Cerebrospinal Meningitis." Discussed by Drs. L. S. Lippincott, Vicksburg; H. C. Ricks, Jackson; N. C. Womack Jackson; F. M. Smith, Vicksburg; J. G. Archer, Greenville; L. W. Long, Jackson; and in closing by Dr. Acree.

Dr. C. M. Speck, New Albany, read a paper entitled "A General Consideration of the Treatment of Syphilis." Discussed by Drs. John C. Culley, Oxford, and Dr. A. R. Porter, Jr., Memphis, Tenn.

Adjourned.

BOOK REVIEWS

Surgical Diagnosis: Edited by Evarts Ambrose Graham, A. B., M. D., Philadelphia, W. B. Saunders Co., 1930. V. 1-2.

This work, consisting of three volumes and an index volume, is written by forty-four of the younger American surgeons and edited by Evarts Graham. The present review is of the first two volumes, which are the only two off the press at the present time.

The work is one particularly of diagnosis and an attempt is made to present the clinical aspects of each condition rather than stress the laboratory methods. In Volume I, the chapter on "Infections" by Harvey is especially well written. "Postoperative Complications" by Cutler and Scott are given in a concise and very clear manner. It is presented in a didactic enough way that the medical student will have little difficulty in comprehending the subject, yet it is presented in a complete enough manner that the mature surgeon may use it to advantage. Barney Brooks' chapter on "Diseases of the Blood Vessels" is a short but excellent presentation of this large subject. Especially valuable are the chapters on "The Extremities, Bones and Cartilage, Muscles, Fascia, and Tendons" by Le Roy Abbot; "Diagnosis in Joint Disease and Injury" by Allison; and Fractures and Dislocations of the Extremities" by Albert Key. Each one of these subjects is discussed in detail and profusely illustrated. "Infections of the Hand" is excellently presented in a brief manner by Kock and Kanavel.

In Volume II, "The Diagnosis of Gynecological Conditions" is excellently prepared by Arthur Curtis, which is also profusely illustrated. "The Skin and Subcutaneous Tissues" are considered by John Morton in an excellent manner, the benign as well as the malignant conditions are thoroughly presented. Blair, Padgett, and Brown have prepared the chapter on "Diseases of the Face, Mouth, and Jaws" in a way in which only Blair and his associates could do. "Diseases of the Neck," aside from those of the thyroid and parathyroid, are discussed by Yates and Raine in an excellent manner. Those of the thyroid and parathyroid are presented by Copher and Dick in a short but extremely comprehensive review. "Surgical Diseases of the Stomach" by J. Horsley, Senior and Junior, is excellently done, as are the "Diseases of the Peritoneum" by Hertzler. The chapters on "Diseases of the Appendix, Small Intestine, and Colon" by Richardson; "Diseases of the Spleen" by Pool and Stillman; and "Hernia" by Fisher and Cole are very well written.

In all, it might be said that the first two volumes of Graham's "Surgical Diagnosis" are a distinct and valuable adjunct to anyone's library. The only criticism that might be raised, at least from the standpoint of a medical student, is that the multiplicity of volumes is undesirable. This in itself, however, means that the work is more complete in that all the material contained within it is "meat," there being no padding.

ALTON OCHSNER, M. D.

Cancer of the Breasté By William Crawford White, M. D., F. A. C. S., New York, Harper & Brothers, 1930. Pp. 221.

This splendid monograph on cancer of the breast comprehensively covers every phase in this important subject. Written in a clear and readable style with a selected bibliography at the end of each chapter it enables the general practitioner and the busy surgeon to get the latest ideas on the management of cancer of the breast.

The reviewer highly recommends this volume and thinks it should be in the hands of all general practitioners and general surgeons.

P. GRAFFAGNINO, M. D.

Incompatability in Prescriptions: By Thomas Stephenson, D. Sc., Ph. C., F. R. S. Edin., F. C. S. New York, Paul P. Hoeber, Inc. 1929. pp. 61.

A book of some sixty-one pages reciting the important incompatabilities in the preparation of prescriptions, together with a dictionary of incompatabilities which tells of individual drugs, their solubility and with what they are incompatible.

J. H. MUSSER, M. D.

General Surgery: Edited by Evarts A. Graham, A. B., M. D. Chicago, The Year Book Publishers. (Practical medicine series). 1930. pp. 800.

The year book of General Surgery for 1929, edited by Evarts Graham, is a valuable collection of abstracts representing the noteworthy additions to the surgical literature of the year. Not only has the American literature been well reviewed, but the foreign literature is also adequately represented. There seems to be no one section of the book that is paramount; all the sections have been impartially considered. As would be expected, the section on "The Chest" is especially excellent. There has been a minimal consideration of unusual and unique conditions, and outstanding articles on

major subjects have been given emphasis. This little volume will prove valuable as a reference book and a permanent file of recent literature.

EARL GARSIDE, M. D.

Les Syndromes Icteriques: Par P. A. Carrié. Paris, Gaston Doin & Cie. 1930. pp. 448.

In presenting the subject of jaundice the author has undertaken a study of the various problems which surround the genesis of bile with its different elements of pigment, bile salts and cholestrin and the analysis of effects produced by retention of each of the elements separately. The physiopathologic mechanisms which preside over the evolution of jaundice, claim a major part of the work. These problems are of difficult and uncertain solution as evidenced by the many conflicting conclusions reached from experiments tending towards the same objective and conducted by equally competent investigators. Then the subject is approached clinically and the syndrome classified.

Various theories regarding the gensis of pigments, biliary salts and cholesterin are advanced and strenuous experiments recited. Concerning the extra- or intra-hepatic origin, an interesting reference is made to the reticulo-endothelial system, in particular to the Kupfer cells of the spleen in the destruction of red blood cells, but it is not proved that the genesis of pigments is an endocellular phenomenon which is the consequence of this erythrophagia.

About biliary salts the same uncertainty prevails; and still more concerning cholesterin. Is cholesterin nothing more than an excretion or is cholesterinemia comparable to glycemia? Is its presence in the blood and in other tissues, especially the nervous tissues, required? Mention is made of its antihemolytic function, that property which prevents the hemolytic action of soaps on red blood cells during digestion? Hence in obstructive jaundice it is suggested that there is usually a protective hyper cholesterinemia which increases the resistance of red blood cells observed in this form of jaundice.

Many theories have been offered to explain the genesis of urobilin. The author emphasizes its entero-hepatic origin. Stercobilin is practically identical to urobilin derived from bilirubin, carried by the biliary passages to the duodenum. Stercobilin is absorbed by the intestinal mucus membrane and returns by the portal system to the liver which destroys it. In hepatic insufficiency stercobilin passes through the liver and appears in the urine as urobilin. The theory rests on experimental and clinical facts which demonstrate the simultaneous disappearance of fecal and urinary urobilin as a result of complete obstruction of the biliary ducts, since urobilin disappears from the urine when stercobilin ceases to be present in the feces. After considering the effects produced by each of the individual elements of bile, reference is made to the different modes of retention. The French school has more especially emphasized the mode of dissociate retention—retention which involves one or more of the elements and not the other. These have been the subject of strenuous discussion the mechanisms of which, the author admits, is too complex and involves too many unknown influences to allow of legitimate interpretation. The rest of the book is devoted to clinical and therapeutic considerations of jaundice.

In reference to infectious forms of jaundice the author takes exception to the accompanying cholangitis to which jaundice is usually ascribed. Widal and his school have done much to destroy the heretofore classic conception of cholangitis as the essential pathologic factor, which according to that school, is to be referred to acute or chronic hepatitis.

In the section dealing with hemolytic jaundice mention is made of a certain form of anemia associated with jaundice, in which there are no hemolysins in the serum nor is there globular fragility. Such conditions prevail in paroxysmal homoglobinuria. The mechanism of jaundice in such cases is well illustrated by experiments of Ravault and Lesné demonstrating the cytolysis of red blood corpuscles by intravenous injections of distilled water, followed at times by hemoglobinuria and at others by jaundice. When hemoglobinuria follows, the cytolysis is sudden and intense and hemoglobin is at once eliminated in the urine. When jaundice follows, the hemolysis is more prolonged hence the formation and retention of the pigment. In the experiment there is no globular fragility nor are there any serum hemolysins just as in the form of anemia above mentioned to which, in consequence, Carrié gives the name simple icteriginous anemia.

Under the heading of toxic jaundice, is an impartial statement regarding jaundice sometimes appearing during the course of anti-syphilitic treatment with arsenobenzol. Some regard it as causative and others only as a coincidence more to be referred to the disease than to treatment.

The book clooses with short chapters on familial cholemia and jaundice of the new born.

Carrié's book even though leading to hypothetic and contradictory conclusions is a valuable and interesting contribution to the study of a still obscure subject. The classification is necessarily difficult; repetitions seem unavoidable. Discussions of various theories and ideas are marked by strict impartiality although bibliography lays greater stress on French contributions.

H. BAYON, SR., M. D.

Collected Papers of the Mayo Clinic and the Mayo Foundation. Volume XXI, 1929. Philadelphia, W. B. Saunders Company. 1930. pp. 1197.

The twenty-first volume of the papers of the Mayo Clinic maintains the usual excellency that these volumes in the past have set for medical literature. They are splendidly printed, edited with care and with extreme accuracy, while the material within the bound covers presents a tremendous catholicity of subject matter. The material is so extensive that a man in any branch of medicine can pick up the Mayo collected papers and find something interesting and instructive. From the point of view of the internist, the papers of Rowntree and of Wilder are particularly satisfactory. This does not say that they are superior to the contributions of other authors, but that they appeal more to the reviewer than do the surgical, pathologic, radiologic and other presentations.

A physician who has been a regular subscriber to the Mayo Clinic volume will have on his file by now very nearly a complete reference handbook of important advances in medicine in the past twenty years.

J. H. Musser, M. D.

Normal Facts in Diagnosis: By M. Coleman Harris, M. D., and Benjamin Finesilver, M. D. Philadelphia, F. A. Davis Co. 1930. pp. 247.

This little book deals with normal physical signs. The authors believe that intelligent interpretation of pathologic signs is impracticable without thorough knowledge of the normal. The subject is covered with clearness and brevity. It should be of special benefit to second year students who are beginning their course in physical diagnosis. Practitioners will find themselves amply repaid by looking over this book and refreshing their memories in regard to some forgotten normal facts.

Randolph Lyons, M. D.

Nasal Catarrh: By W. Stuart-Low, F. R. C. S. (Eng.). London, H. K. Lewis & Co., Ltd. 1930. pp. 84.

This is a little volume of 84 pages. The whole object and burden of which is "to show that nasal catarrh, whether acute or chronic, originates entirely in obstruction to a free nasal passage, and that the removal of such obstruction is of the most urgent importance in its treatment."

Nasal catarrh is a term much used in this country by the layman but little favored by the medical profession. It is regarded, as is diarrhea, more as a symptom than as a clinical entity. The author uses nasal catarrh as a generic term to denote any sort of nasal discharge.

The author's style of writing is involved and hard to follow. He says for example, "Many of those who have bestowed sufficient attention on the subject of nasal obstruction and diseases of the nose and observed post-operation results long and carefully enough, must have become fully cognizant of, if they have not severely animadverted upon, the disadvantageous, not to say disastrous, consequences that only too frequently follow much of the present-day intra-nasal surgery."

The book is not a valuable contribution to the literature.

H. Kearney, M. D.

L'Emphyseme — Diagnostic — Traitement. Par L. Bord. Paris, Gaston Doin. 1930. pp. 58.

A very complete and comprehensive description of emphysema, its etiology, diagnosis, pathology and treatment. The subject is approached in an elementary but very systematic manner, all details of the mechanism of production of the condition being fully explained and discussed, and the treatment for each individual form outlined.

Henry Bayon, Jr., M. D.

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